Applicable Country & Regions: EU

Service Manual for BenQ:

LCD G2200WE

(D-SUB + DVI-D + Glossy Black Chassis Colors)

P/N: 9H.Y0PLA.DBx

Product Service Manual – Level 1~2

Version: 1st
Date:02-05-2010

Notice:
For RO to input specific "Legal Requirement" in specific NS regarding to responsibility and liability statements.
Please check BenQ's eSupport web site, http://esupport.benq.com, to ensure that you have the most recent version of this manual.

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Abbreviations & Acronyms

A	
ADC	Analog to Digital Converter
AFC	Automatic Frequency Control: control signal used to tune to the correct frequency
B	
BenQ	BenQ Corporation
BTSC	Broadcast Television System Committee
C	
CPU	Central Process Unit
CVBS	Composite Video Blanking and Synchronization
D	
DLP	Digital Light Processing / Texas Instruments®
DMD	Digital Micro mirror Device
DRAM	Dynamic RAM
DVI	Digital Visual Interface
DVI-D	Digital Visual Interface-digital
DVI-I	Digital Visual Interface-Integrated
E	
EEPROM	Electrically Erasable and Programmable Read Only Memory
F	
FLASH	FLASH memory
G	
G-TXT	Green Teletext
H	
HDMI	High Definition Multimedia Interface, digital audio and video interface
HP	Head Phone
I	
I^2C	Integrated IC bus
L	
LED	Light Emitting Diode
LVDS	Low Voltage Differential Signal, data transmission system for high
M	

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MOSFET	Metal Oxide Semiconductor Field Effect Transistor
N	
NC	Not Connected
NVM	Non Volatile Memory: IC containing TV related data (for example, options)
O	
OSD	On Screen Display
P	
PC	Personal Computer
PCB	Printed Circuit Board (or PWB)
R	
RC	Remote Control transmitter
RGB	Red, Green and Blue. The primary color signals for TV. By mixing levels of R, G and B, all colors (Y/C) are
ROM	Read Only Memory
S	
SDA	Data signal on I^2C bus
SDRAM	Synchronous DRAM
SW	Sub Woofer / Software
T	
THD	Total Harmonic Distortion
V	
VGA	Video Graphics Array
Y	
YPbPr	Component video (Y= Luminance, Pb / Pr= Color difference signals B-Y and R-Y, other amplitudes w.r.t. to YUV)
Y/C	Video related signals: Y consists of luminance signal, blanking level and sync; C consists of color signal.

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1. About this Manual

The purpose of Service Manual is to provide a guide line to engineers to repair different models. The appearance and capability is introduced in this Service Manual. It is better for repair engineer to have a rough idea of this model through reading the Service Manual. Please do pay attention to the item part of the disassembly when repair the machine and also do the protection of panel any time. When repairing the circuit board, please follow the requirement of RoHS and refer to the circuit diagram and repairing process that attached in the Service Manual. The method of firmware updated, the way of using the menu and some information that may be used when repairing are also attached in the Service Manual that provide repair engineer various choice.

1.1 Important

Only trained service personnel who are familiar with this BenQ Product shall perform service or maintenance to it. Before performing any maintenance or service, the engineer MUST read the “Important Safety Information”.

1.2 Trademark

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2. Introduction

This section contains general service information, please read through carefully. It should be stored for easy access place.

2.1 RoHS (2002/95/EC) Requirements – Applied to all countries require RoHS.

The RoHS (Restriction of Hazardous Substance in Electrical and Electronic Equipment Directive) is a legal requirement by EU (European Union) for the global electronics industry which sold in EU and some counties also require this requirement. Any electrical and electronics products launched in the market after June 2006 should meet this RoHS requirements. Products launched in the market before June 2006 are not required to compliant with RoHS parts. If the original parts are not RoHS complaints, the replacement parts can be non ROHS complaints, but if the original parts are RoHS compliant, the replacement parts MUST be RoHS complaints.
If the product service or maintenance require replacing any parts, please confirming the RoHS requirement before replace them.

2.2 Safety Warning and Notice

Installation

1. Do not use your monitor under any of the following environmental conditions:
   - Extremely high or low temperature, or in direct sunlight
   - Dusty places
   - Highly humid, exposed to rain, or close to water
   - Exposed to vibrations or impacts in places such as cars, buses, trains, and other rail vehicles
   - Near heating appliances such as radiators, heaters, fuel stoves, and other heat-generating items (including audio amplifiers)
   - An enclosed place (such as a closet or bookcase) without appropriate ventilation
   - An uneven or sloping surface
   - Exposed to chemical substances or smoke
2. Do not block vents and openings by clothes or curtains.
3. Carry the monitor carefully.
4. Do not place the monitor face down on the floor or a desk surface directly. Otherwise, scratches on the panel surface may occur.
5. Do not place heavy loads on the monitor to avoid possible personal injury or damage to the monitor.
6. Ensure that children do not hang or climb onto the monitor.
7. Keep all packing bags out of reach of children.

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Operation

1. To protect your eyesight, please refer to the user manual to set the optimal screen resolution and the viewing distance.
2. To reduce eye fatigue, take a break on a regular basis while using the monitor.
   Avoid taking either one of the following actions for a long time. Otherwise, burn marks may occur.
   - Use the monitor in the aspect ratio of 4:3, 5:4, or 16:10.
   - Place a still image (such as an OSD menu, fixed text or image) on the screen.
3. To avoid possible damage to the monitor, do not touch the monitor panel by hand, pen, or any other sharp objects.
4. Excessively frequent plug and unplug of video connectors (D-sub / DVI / HDMI) may cause damage to the monitor.
5. This monitor is designed mainly for personal use. If you want to use the monitor in a public place or a harsh environment, contact your nearest BenQ service center for assistance.
6. To avoid possible electric shock, do not dissemble or repair the monitor.
7. If a bad smell or an abnormal sound appears to come from the monitor, contact your nearest BenQ service center for assistance immediately.

Cleaning

1. Ensure that the power is unplugged before cleaning your monitor
2. Use a monitor cleaner and a soft cloth to clean your monitor.
3. Do not use solvents such as alcohol to clean your monitor.

Power

1. To avoid possible damage to the monitor, do not use it in a region where power supply is unstable.
2. Ensure that the power cord is connected to a grounded power outlet before turning on the monitor.
3. Use only the power cord provided by BenQ.
4. Never use a power cord that appears to be damaged or frayed.
5. To avoid possible danger, observe the total electric load when using the monitor with a (multi-outlet) extension cord.
6. Always turn off the monitor before unplugging the power cord.

2.3 Compliance Statement

Caution: This Optical Storage Product contains a Laser device. Refer to the product specifications and your local Laser Safety Compliance Requirements.

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3. General Description

This new LCD (Liquid Crystal Display) monitor BenQ G2200WE offers numerous features and functions, for example:

- TFT display (Thin Film Transistor; active matrix)
- Minimal space requirements thanks to slim casing
- Optimum ergonomic characteristics (totally distortion-free, excellent picture definition and color purity right into the corners)
- Contrast ratio 1000:1, brightness 300nits
- MAX. resolution (1680 x 1050)
- Presentation of up to 16.7 M colors (in conjunction with an appropriate graphics card)
- Automatic scanning of horizontal frequencies from 31 to 83 KHz and refresh rates (vertical frequencies) from 55 to 76 Hz (absolutely flicker-free)
- Digital screen controller with microprocessor for storing 15 different display modes
- Freely adjustable color alignment for matching the screen colors to the colors of various input and output devices
- Convenient operation via integrated OSD (On-Screen-display) menu
- VESA-DDC compatibility
- Plug & play capability
- Power management for reducing power consumption when the computer is not in use

This operating manual contains important information you require to start up and run your LCD monitor.
This specification defines the requirements for the 22″ MICROPROCESSOR based Multi-mode supported high resolution color LCD monitor. This monitor can be directly connected to general 15-pin VGA connector and 24-pin DVI-D connector, also supports VESA DPMS power management and plug & play function.

Additional information

Due to the nature of liquid crystal display (LCD) technology, the picture resolution is always fixed. For the best display performance, please set the display resolution to 1680x1050 pixels with an aspect ratio of 16:9. This is called “Native Resolution” or maximal resolution - that is, the clearest picture. Lower resolutions are displayed on a full screen through an interpolation circuit. Image blurring across pixel boundaries can occur with the interpolated resolution depending upon the image type and its initial resolution.

4. Related service information

This Service Manual contains general information. There are 2 levels of service:

Level 1: Cosmetic / Appearance / Alignment Service

Level 2: Circuit Board or Standard Parts Replacement

Service Web Site

eSupport URL: **http://esupport.benq.com**

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5. Product Overview

5.1 Monitor Specifications

LCD Panel	Panel Type (TN / VA / IPS)	TN
	Size	22"
	Pixel pitch	0.282mm
	Viewable angle	160, 160 (CR>10)
	Contrast	1000:1
	Brightness	300 cd/m2
	Response time	5ms(Tr+Tf)
Input	Video	R, G, B Analog Interface
	Separate Sync.	H/V TTL
	H-Frequency	31 - 83 kHz Multi- frequency monitor
	V-Frequency	55 - 76 Hz modes within these parameters
Display Colors		16.7M Colors
Max. Resolution		1680 x 1050
Plug & Play		VESA DDC2B™
EPA ENERGY STAR®	ON Mode	≤45W
	saving mode	< 1 Watt, 120 V < 2 Watt, 240 V
Input Connector		15-pin D-Sub
Input Video Signal		Analog: 0. 7Vp-p(standard), 75 OHM, Positive
Power Source		100~240VAC,50~60Hz
Environmental Considerations		Operating Temp: 0° to 40°C Operating Humidity: 10% to 90%
Certifications		TCO 03/99, TÜV/Ergonomics, TÜV/ GS, FCC Class B, VCCI, CB Report, CE, C-Tick, Fimko, GOST, MIC, EPA, CCC, BSMI, CSA, SASO, PSB, NOM, TUV-Argentina

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5.2 Packing

When packing the monitor into the carton, please follow the pictures as below.

1. Using the EPE bag to pack the monitor without base

2. Using the EPS to pack the monitor

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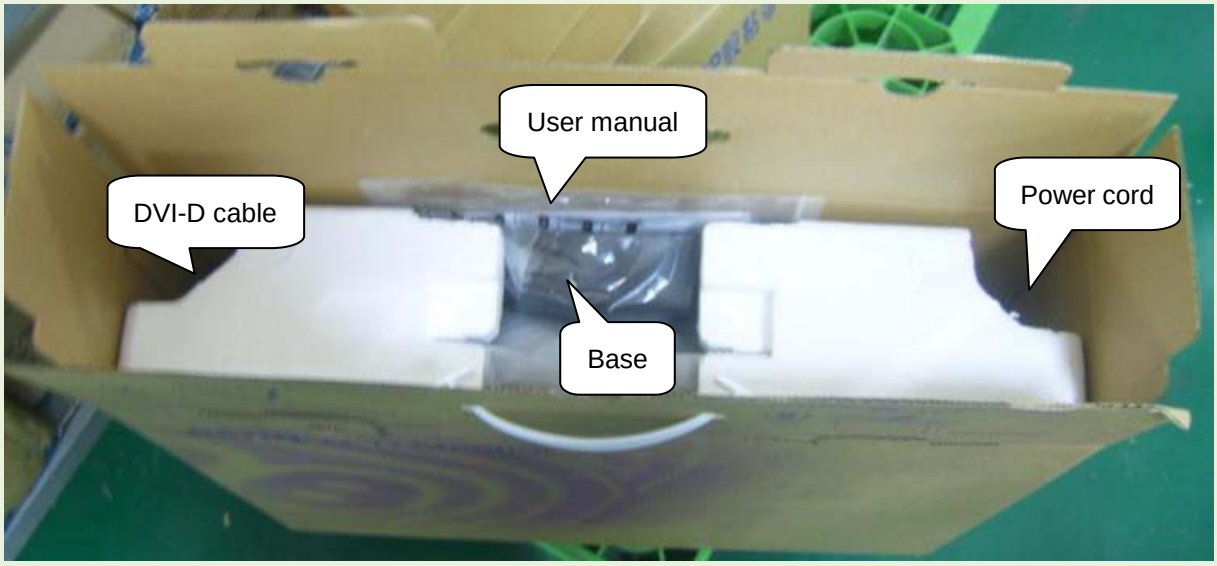
3. Putting the base, user manual, DVI-D cable and power cord in the position as the picture shows below.



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Level 1 Cosmetic / Appearance / Alignment Service

Visual Inspection & Cleaning

- Cleaning. Always unplug your monitor from the wall outlet before cleaning. Clean the LCD monitor surface with a lint-free, non-abrasive cloth. Avoid using any liquid, aerosol or glass cleaners.
- Slots and openings on the back or top of the cabinet are for ventilation. They must not be blocked or covered. Your monitor should never be placed near or over a radiator or heat source, or in a built-in installation unless proper ventilation is provided.
- Never push objects or spill liquid of any kind into this product.

Software/Firmware Upgrade Process

Hardware Requirement:

1) ISP board (715GT034-D for BenQ)
2) Printer cable(x1), VGA cable (x1), 12V DC power source
3) PC or notebook with parallel (printer) port x 1

Software Requirement:

1) PORT95NT.exe
2) Realtek_ISP_Tool 3Bank For BenQ ver4.3.exe
3) TPVDDC.exe

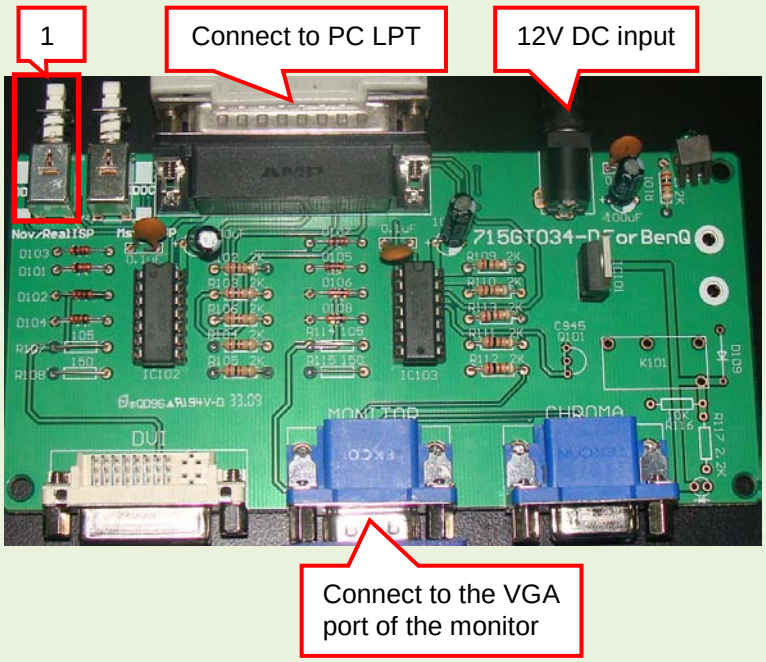
Step 1: Install the “PORT95NT.exe”

1. Double click the icon

to install the “PORT95NT”, and then restart the computer.

Step 2: Writing the ISP data

1. Press the button 1 and connect the ISP board as follow:



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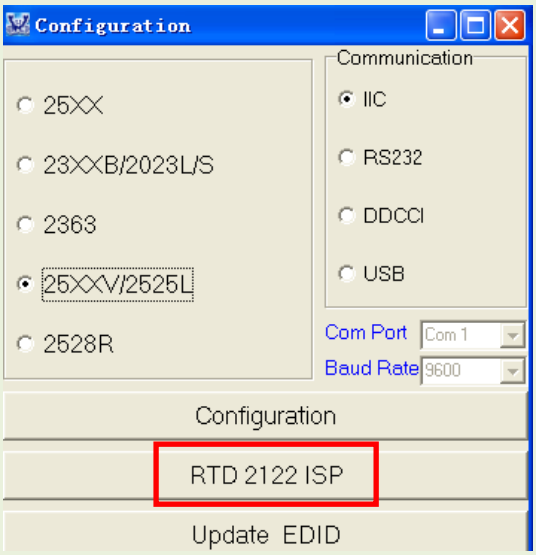
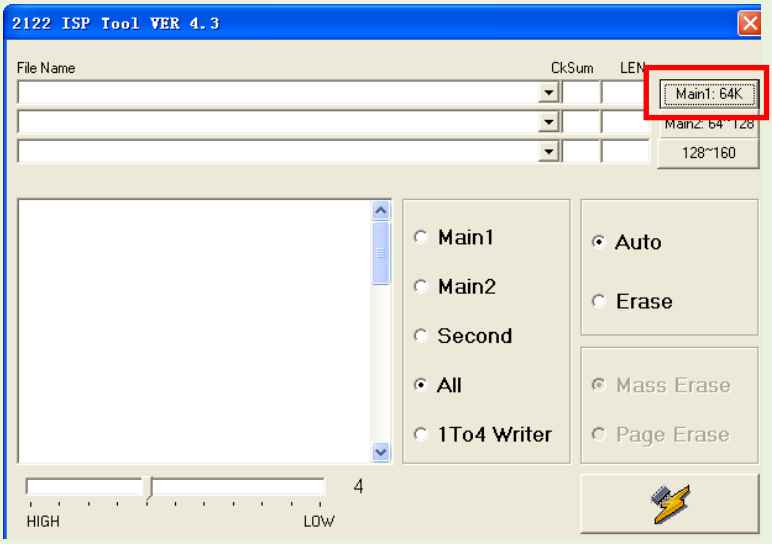
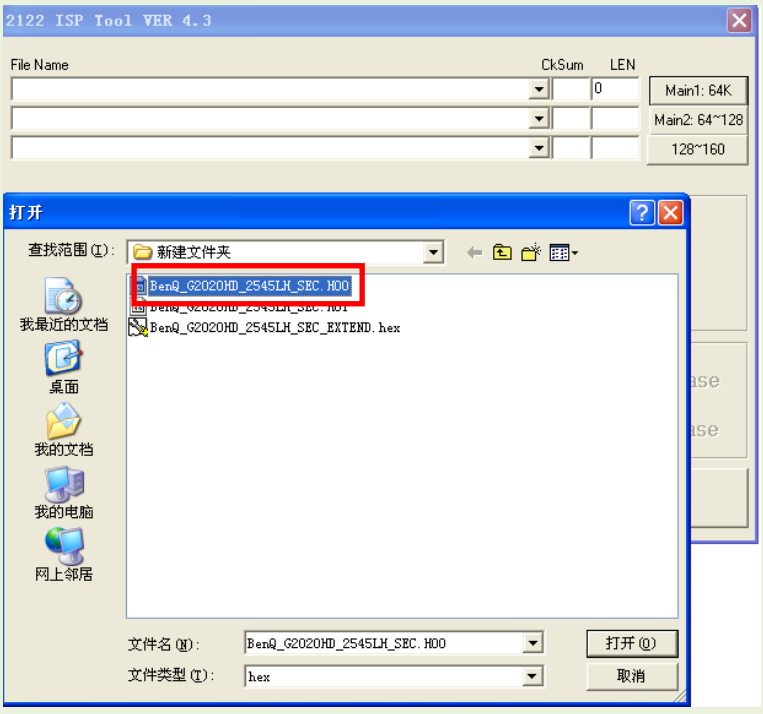
2. Open the software “Realtek_ISP_Tool 3Bank For BenQ ver4.3.exe”, and then click “RTD 2122 ISP”

   Note: The process of the ISP writing takes G2020HD for example.



3. Click “Main1: 64k”, and choose the file “BenQ G2020HD 2545LH _SEC.H00”





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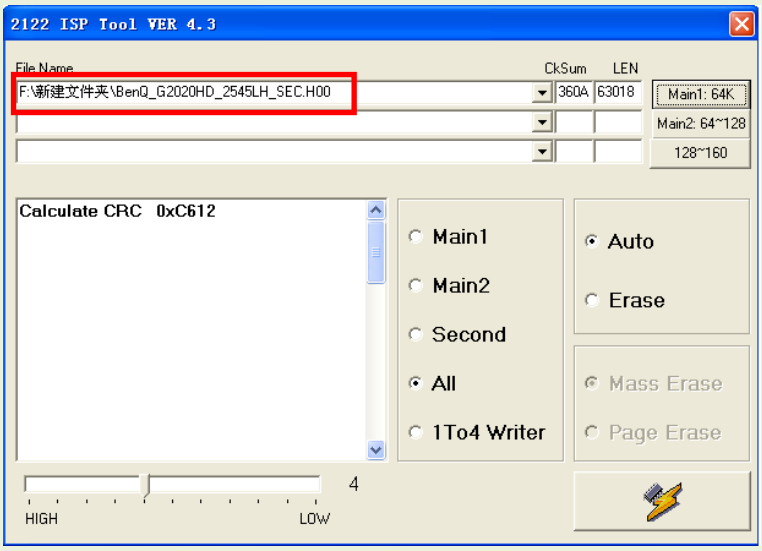
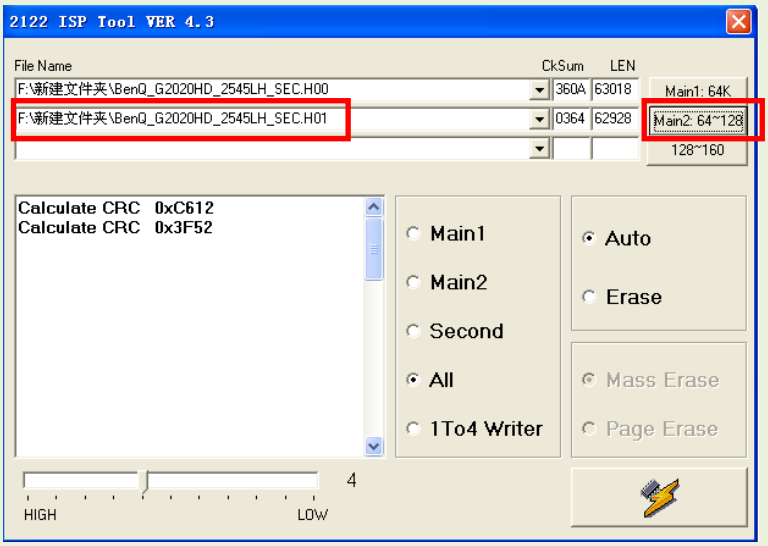
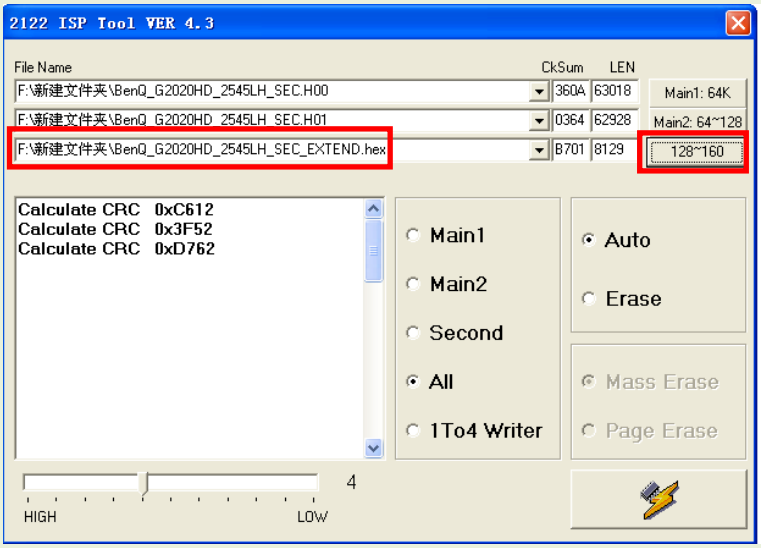
4. Click “Open”, it will show the below picture



5. Click “Main2: 64~128K”, and choose the file “BenQ G2020HD 2545LH _SEC.H01”



6. Click “128~160”, and choose the file “BenQ G2020HD 2545LH _SEC_EXTEND.hex”



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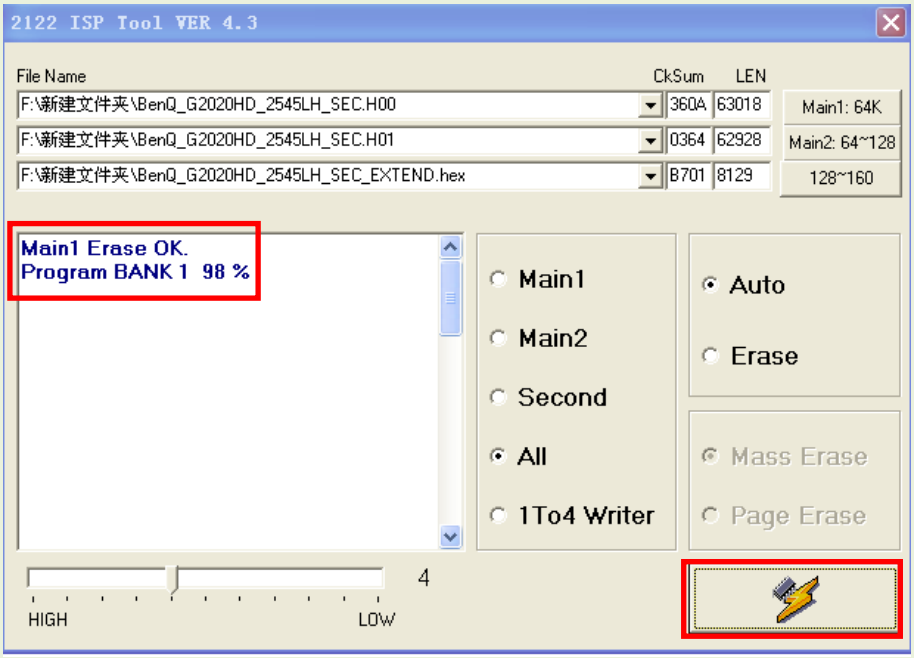
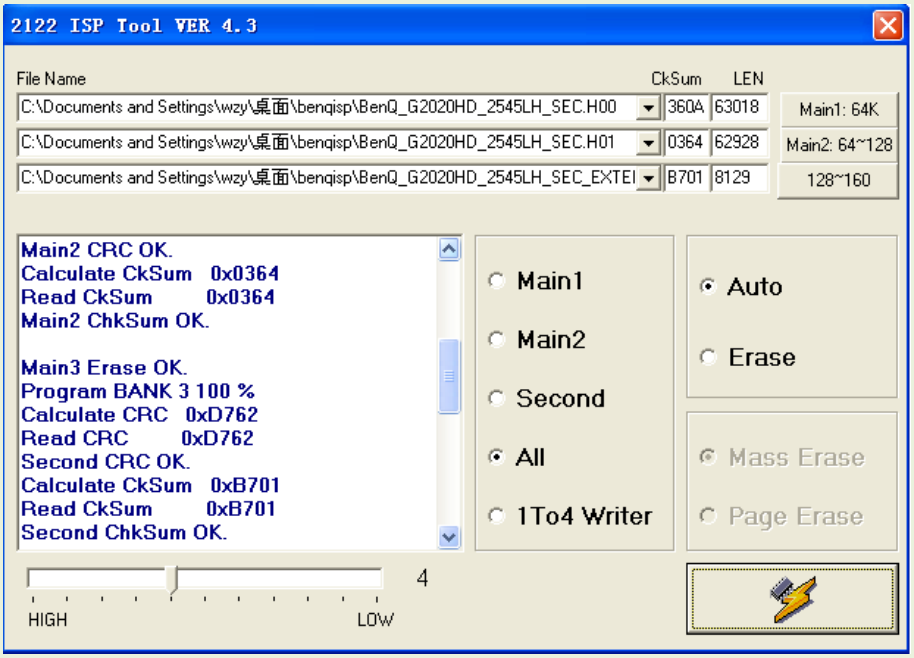
7. Click , if it is successful it will show the below pictures:





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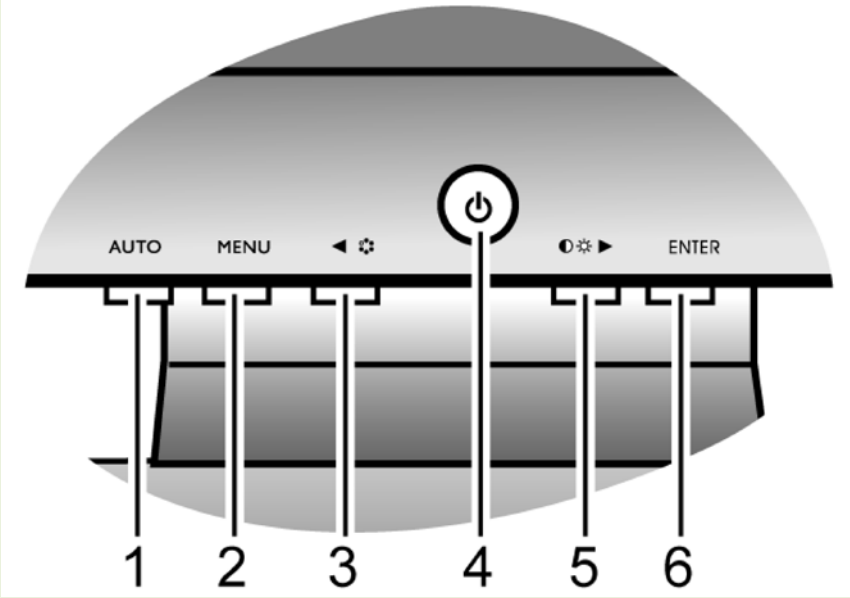
Adjustment / Alignment Procedure

The Control Panel



1. **AUTO**: Adjust vertical position, phase, horizontal position and pixel clock automatically.
2. "**MENU**" key: Activate OSD main menu and return to the previous menu or exit OSD.
3. **◄/Mode** key: For Left/Decrease adjustment. The key is the hot key for Mode.
4. "**Power**": Turn the power on or off.
5. **►/Contrast/Brightness** key: For Right/Increase adjustment. The key is the hot key for Brightness and Contrast.
6. "**ENTER**" key: Enter sub menus and select items. For models with DVI inputs, this key is also the hot key for Input.

OSD = On Screen Display.

The hot-keys will display a graduated scale for adjusting the value of that setting, and will only operate while the OSD menu is not currently displaying. Hot-key displays will disappear after a few seconds of no key activity.

Hot Key Mode

The monitor keys perform as hot keys to provide direct access to particular functions whenever the menu isn't currently displaying on-screen.

Brightness and Contrast Hot Keys

Press the ► key to display the **Brightness** and **Contrast** indicators. Further press ◄ or ► keys, then the **ENTER** key to select **Brightness** or **Contrast**. The ► key will increase the level, while the ◄ key will decrease the level. To exit, press the **MENU** key.

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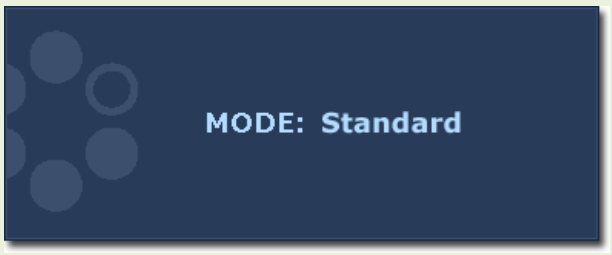
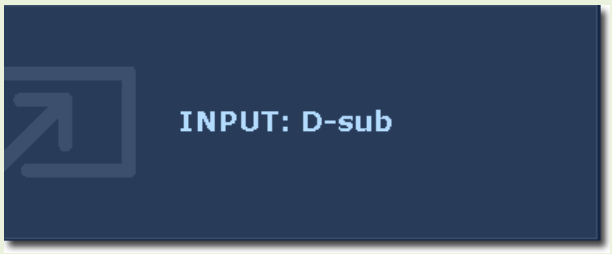
Mode Hot Key



Press the ◄ key continually to switch between the 6 modes for the main window, including **Standard**, **Movie**, **Game**, **Photo**, **sRGB,** and **ECO**. The setting will take effect immediately.

Input Hot Key



Press the **ENTER** key to toggle between different PC video signal inputs that may be connected to your monitor. The setting will take effect immediately.

Main Menu Mode

You can use the OSD (On Screen Display) menu to adjust all the settings on your monitor.

Press the **MENU** key to display the following main OSD menu.

There are four main OSD menus:

1. Display
2. Picture
3. Picture Advanced
4. System

Use ◄ (left) or ► (right) keys to highlight a menu item, and press the **ENTER** key to enter the Menu item settings.

The OSD menu languages may differ from the product supplied to your region.

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Display Menu

1. Press the **MENU** key to display the main menu.
2. Press ◄ or ► keys to select **DISPLAY** and then press the **ENTER** key to enter the menu.
3. Press ◄ or ► keys to move the highlight to a menu item and then press the **ENTER** key to select that item.
4. Press ◄ or ► keys to make adjustments or selections.
5. To return to the previous menu, press the **MENU** key.

Item	Function	Operation	Range
Auto Adjustment	Optimizes and adjusts the screen settings automatically for you. The **AUTO** key is a 'hot key' for this function. ☞ When you connect a digital video output using a digital (DVI) cable to your monitor, the **AUTO** key and the **Auto Adjustment** function will be disabled.	Press the **ENTER** key to select this option and make adjustment.	
H. Position	Adjusts the horizontal position of the screen image.	Press ◄ or ► keys to adjust the value.	0 to 100
V. Position	Adjusts the vertical position of the screen image.		0 to 100
Pixel Clock	Adjusts the pixel clock frequency timing to synchronize with the analog input video signal. Not applicable to a digital input signal.		0 to 100
Phase	Adjusts the pixel clock phase timing to synchronize with the analog input video signal. Not applicable to a digital input signal.		0 to 63

Picture Menu

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1. Press the **MENU** key to display the main menu.
2. Press ◄ or ► keys to select **PICTURE** and then press the **ENTER** key to enter the menu.
3. Press ◄ or ► keys to move the highlight to a menu item and then press the **ENTER** key to select that item.
4. Press ◄ or ► keys to make adjustments or selections.
5. To return to the previous menu, press the **MENU** button.

Item	Function	Operation	Range
Brightness	Adjusts the balance between light and dark shades.	Press the ► key to increase the brightness and press the ◄ key to decrease the brightness.	0 to 100
Contrast	Adjusts the degree of difference between darkness and lightness.	Press the ►key to increase the contrast and press the ◄ key to decrease the contrast.	0 to 100
Sharpness	Adjusts the clarity and visibility of the edges of the subjects in the image.	Press the ► key to improve the crispness of the display and press the ◄ key to have softness effect on the display.	1 to 5
Color - Press **ENTER** to enter the **Color** menu.			
Normal	Allows video and still photographs to be viewed with natural coloring. This is the factory default color.	Press ◄ or ► keys to select this option.	
Bluish	Applies a cool tint to the image and is factory pre-set to the PC industry standard white color.		
Reddish	Applies a warm tint to the image and is factory pre-set to the news print standard white color.		
User Mode	Tailors the image color tint. The blend of the Red, Green and Blue primary colors can be altered to change the color tint of the image. Decreasing one or more of the colors will reduce their respective influence on the color tint of the image. e.g. if you reduce the Blue level the image will gradually take on a yellowish tint. If you reduce Green, the image will become a magenta tint.	Press ◄ or ► keys and the **ENTER** key to select Red, Green, or Blue. Then use Press ◄ or ► keys to make the color adjustments.	• Red (0 to 100) Green (0 to 100) • Blue (0 to 100)
Reset Color	Resets the **User Mode** custom color settings to the factory defaults.	Press ◄ or ► keys to adjust the settings.	YES NO
Press **MENU** to leave the Color menu.			
Dynamic Contrast	The function will increase the level of contrast to provide sharper and more detailed image quality. Activating Dynamic Contrast will disable Brightness and Contrast controls	Press the ENTER key to select this option. Press the □ or □ keys to change the settings.	• ON • OFF

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Picture Advanced Menu

1. Press the **MENU** key to display the main menu.
2. Press ◄ or ► keys to select **PICTURE ADVANCED** and then press the **ENTER** key to enter the menu.
3. Press ◄ or ► keys to move the highlight to a menu item and then press the **ENTER** key to select that item.
4. Press ◄ or ► keys to make adjustments or selections.
5. To return to the previous menu, press the **MENU** button.

Item	Function	Operation	Range
Picture Mode	Selects a picture mode that best suits the type of images shown on the screen. • Standard - for basic PC application. • Movie - for viewing videos. • Game - for playing video games. • Photo - for viewing still images. • sRGB - for better color matching representation with the peripheral devices, such as printers, DSCs, etc. • ECO – for saving electricity with low power consumption by providing minimum brightness for all running programs.	Press ◄ or ► keys to change the settings.	Standard Movie Game Photo sRGB
Senseye Demo	Displays the preview of screen images under the selected mode from Picture Mode. The screen will be divided into two windows; the left window demonstrates images of Standard mode, while the right window presents the images under the specified mode.	Press ◄ or ► keys to change the settings.	ON OFF
Display Mode	This feature is provided to allow aspect ratio's other than 16:10 to be displayed without geometric distortion. • Full - Scales the input image to fill the screen. Ideal for 16:10 aspect images. • Aspect - Ideal for 4:3 aspect images.	Press the □ or □ keys to change the settings.	• Full • Aspect

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System menu

1. Press the **MENU** key to display the main menu.
2. Press ◄ or ► keys to select **SYSTEM** and then press the **ENTER** key to enter the menu.
3. Press ◄ or ► keys to move the highlight to a menu item and then press the **ENTER** key to select that item.
4. Press ◄ or ► keys to make adjustments or selections.
5. To return to the previous menu, press the **MENU** button.

Item	Function	Operation	Range
Input	Selects the D-sub (analog) or DVI (digital) input. Use this to change the input to that appropriate to your video cable connection type. ☞ Analog-only models do not have the **Input** function.	Press ◄ or ► keys to change the setting.	DVI D-sub (VGA)
OSD Settings - Press **ENTER** to enter the **OSD** Settings menu.			
Language	Sets the OSD menu Language.	Press ◄ or ► keys to change the settings. ☞ The language options displayed on your OSD may differ from those shown on the right, depending on the product supplied in your region.	• English • French • German • Italian • Spanish • Polish/Japanese • Czech/Traditional Chinese • Hungarian/ Simplified Chinese • Serbo-Croatian • Romanian • Dutch • Russian • Swedish • Portuguese

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H. Position	Adjusts the horizontal position of the OSD menu.	Press ◄ or ► keys to change the settings.	0 to 100
V. Position	Adjusts the vertical position of the OSD menu.		0 to 100
Display Time	Adjusts the display the OSD menu.		5 / 10 / 15 / 20 / 25 / 30 sec
OSD Lock	Prevents all the monitor settings from being accidentally changed. When this function is activated, the OSD controls and hotkey operations will be disabled.	Press ◄ or ► keys to change the settings. ☞ To unlock the OSD controls when the OSD is preset to be locked, press and hold the "MENU" key for 15 seconds to enter the "OSD Lock" option and make changes. Alternatively, you may use ◄ or ► keys to select "NO" in the "OSD Lock" submenu from the "OSD Settings" menu, and all OSD controls will be accessible.	YES NO
Press **MENU** to leave the OSD Settings menu.			
DDC/CI*	Allows the monitor settings to be set through the software on the PC.	Press the **ENTER** key to select this option. Press ◄ or ► keys to change the settings.	ON OFF
Information	Displays the current monitor property settings.	Press the **ENTER** key to select this option.	
Reset All	Resets all mode, color and geometry settings to the factory default values.	Press ◄ or ► keys to change the settings.	YES NO

*DDC/CI, short for Display Data Channel/Command Interface, which was developed by Video Electronics Standards Association (VESA). DDC/CI capability allows monitor controls to be sent via the software for remote diagnostics.

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Display Timing Table

Pixel Format	Hor. Frequency (kHz)	Ver. Frequency (Hz)	Pixel Clock (MHz)	Source
640 x 350	31.47	70.09	25.18	VGA
640 x 480	31.47	59.94	25.175	VGA
640 x 480	37.50	75.00	31.500	VGA
720 x 400	31.47	70.08	28.321	VGA
800 x 600	37.88	60.32	40.000	VESA
800 x 600	46.88	75.00	49.500	VESA
832 x 624	49.72	74.55	57.283	MAC
1024 x 768	48.36	60.00	65.000	VESA
1024 x 768	60.02	75.03	78.750	VESA
1024 x 768	68.68	85.00	94.500	VESA
1152 x 720	44.86	60.00	66.750	CVT0.83MA
1152 x 870	68.68	75.06	100.000	MAC
1152 x 900	61.80	65.96	92.978	SUN
1280 x 768	47.396	60.0	68.25	CVT0.98M9-R
1280 x 960	60.00	60.00	108.000	VESA
1280 x 1024	63.98	60.02	108.000	VESA
1280 x 1024	79.98	75.02	135.000	VESA
1280 x 1024	91.15	85.02	157.500	VESA
1360 x 768	47.7	60.01	85.5	VESA
1440 x 900	55.94	59.89	106.500	CVT1.30MA
1440 x 900	55.94	59.89	88.75	
1440 x 900	70.6	75	136.75	
1660 x 1000	61.684	60.00	108.50	CVT1.60MA-R
1600 x 1200	75.00	60.00	162.000	VESA
1600 x 1200	93.80	75.00	202.500	VESA
1680 x 1050	65.29	60.00	146.250	CVT1.76MA
1680 x 1050	82.3	75	187	
1920 x 1080	66.587	59.934	138.5	
1920 x 1080	67.158	60.00	173.00	CVT2.07M9
1920 x 1200	74.04	60.00	154.000	CVT2.30MA-R
1920 x 1200	74.56	59.8	193.25	CVT2.30MA

- Image disruption may occur as a result of signal frequency differences from graphic cards which do not correspond with the usual standard. This is not, however, an error. You may improve this situation by altering an automatic setting or by manually changing the phase setting and the pixel frequency from the “DISPLAY” menu.
- To extend the service life of the product, we recommend that you use your computer's power management function.

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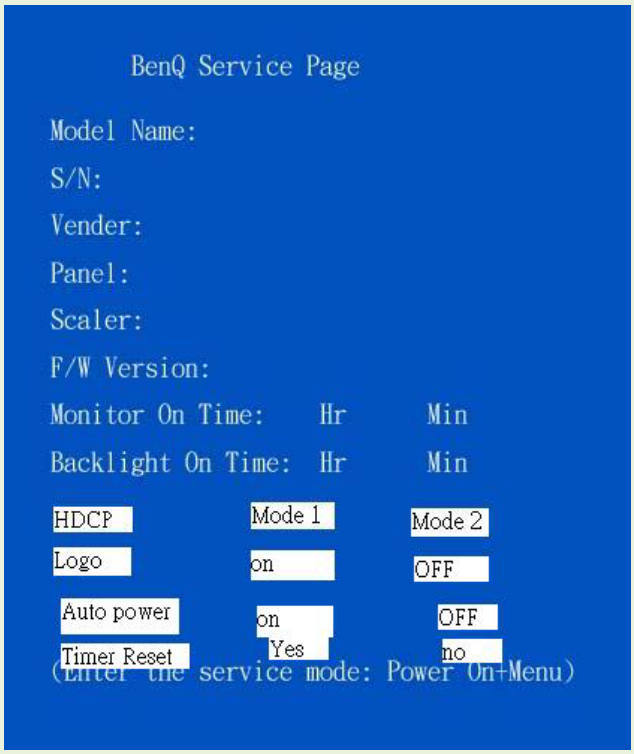
Factory OSD Menu

Turn off the monitor, keep pressing the “MENU” buttons, and turn on the monitor, then when we press the MENU button, the factory OSD will be at the left top of the panel as below:



BenQ Service Page

1. Trigger method: press “Menu” key and Power on.
2. Press the menu key will display the service page
3. Press the menu key will close the service page.
4. Power off will quit the service mode
5. At the service mode, the key function is same as normal OSD define.
6. The timer can only reset at the service mode by “Timer Reset” (Timer Reset moves to SI factory Area). And need to have a warning message to double confirm the reset function. The timer should record up to 99999 hours.
7. Add one select item for HDCP(DVI port),Mode1,Mode2 at Service menu
   Mode1: To enable the hot plug pin detection. (HDMI port default)
   Mode 2: To disable the hot plug pin detection. (DVI port default)
8. Add BenQ logo on/off item, the default is “on”
9. Add the auto power on item, the default is “off ”
10. Panel type define need to have the panel version.
11. F/W version need to define the dual or analog model.

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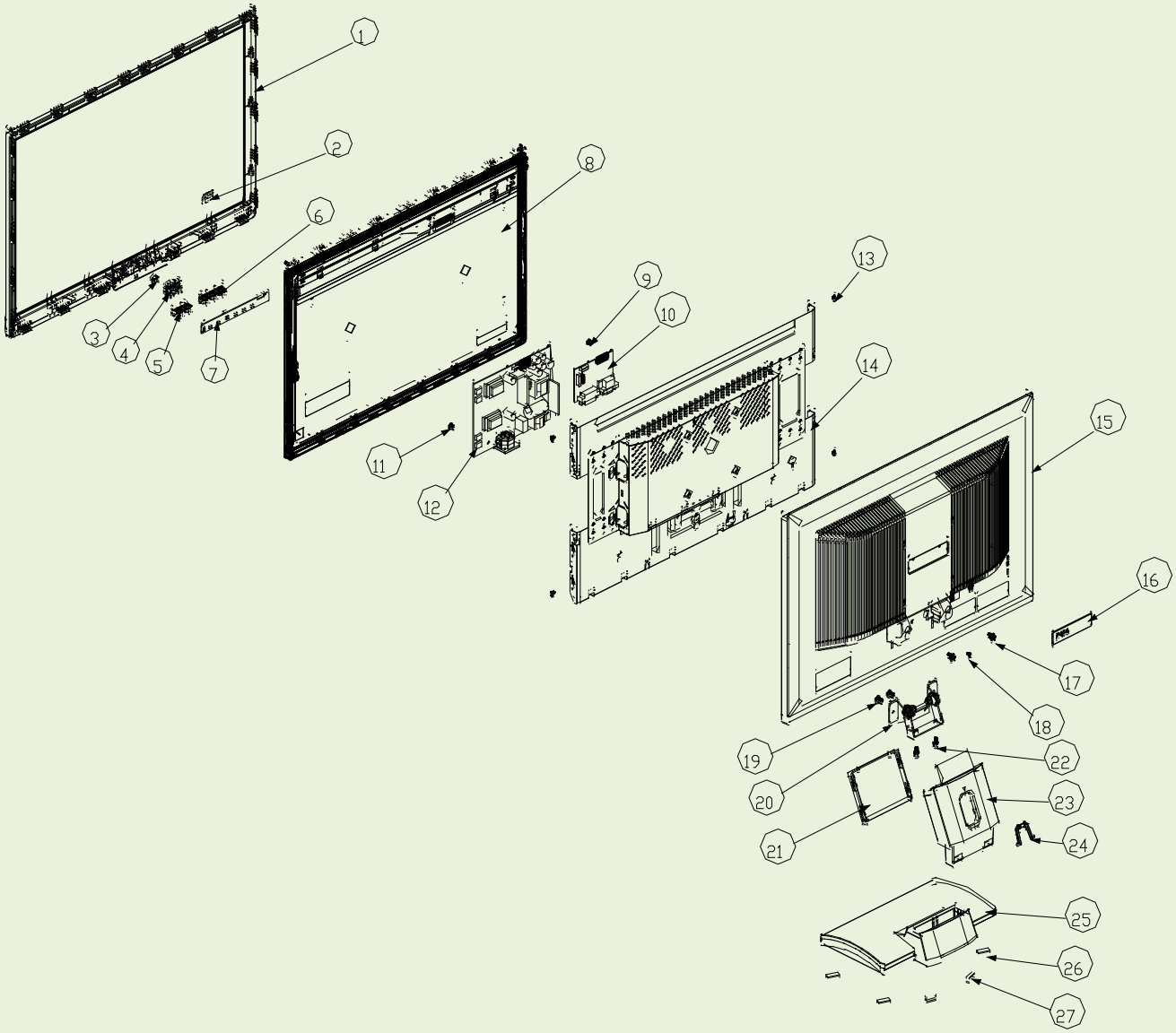
Level 2 Circuit Board and Standard Parts Replacement

Product Exploded View



Note: The parts information listed below are for reference only, and are subject to change without notice. Please go to http://cs.tpv.com.cn/hello1.asp for the latest information.

Item	Part NO.	Description	QTY	Unit
1	A34G0639ADPA1B0130	BEZEL(L22W-7BENQ)	1	PCS
2	Q23G3178881 2A	LOGO FOR 22	1	PCS
3	A33G0249BAAA1C0100	POWER BUTTON	1	PCS
4	A33G0250ADQ 1C0100	LENS	1	PCS
5	A33G0248ADP 2L0100	KEY PAD 2	1	PCS
6	A33G0248ADP 1L0100	KEY PAD 1	1	PCS
7	KEPC7QB4	KEY BOARD	1	PCS
8	750GLSC0L017FN	PANEL LTM220M1-L01 8FN(8FP) FZ SEC	1	PCS
10	756GQ8CB RJ001 00	MAIN BOARD	1	PCS

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12	PWPC9C42MQAA	POWER BOARD	1	PCS
14	A15G0364101	MAINFRAME	1	PCS
15	A34G0640ADP 1B0130	REAR COVER22"	1	PCS
16	A33G0258ADPC1L0100	LOGO COVER	1	PCS
20	A37G0068 1	HINGE	1	
21	A33G0335ADP 1L0118	STAND-FRONT	1	
23	A34G0642ADP 1B0130	STAND-BACK	1	
24	A33G0251ADP 1L0100	CABLE CLIP	1	
25	A34G0641ADP 1B0133	BASE	1	
26	Q12G6600 8	PORON FOOT	1	
27	Q12G6600 17	PORON FOOT	1	
SCREW				
Item	**Part NO.**	**Description**	**QTY**	**Unit**
9	0M1G1730 6120	MAIN BOARD & MAINFRAME	2	PCS
11	0M1G1730 6120	POWER BOARD & MAINFRAME	4	PCS
13	0M1G 130 5120	PANEL & MAINFRAME	4	PCS
17	AM1G1740 10 47 CR3	REARCOVER &HINGE & MAINFRAME	2	PCS
18	0M1G 130 5 47 CR3	REARCOVER & MAINFRAME	1	PCS
19	0Q1G1840 10120	HINGE &REARCOVER	2	
22	0M1G1740 10120	HINGE&STAND BACK		
ART.				
	Part NO.	**Description**	**QTY.**	**Unit**
	Q44GC049101	EPS	1	PCS
	Q44GC049201	EPS	1	PCS
	Q44GC049881 3A	22″ LCD CARTON	1	PCS

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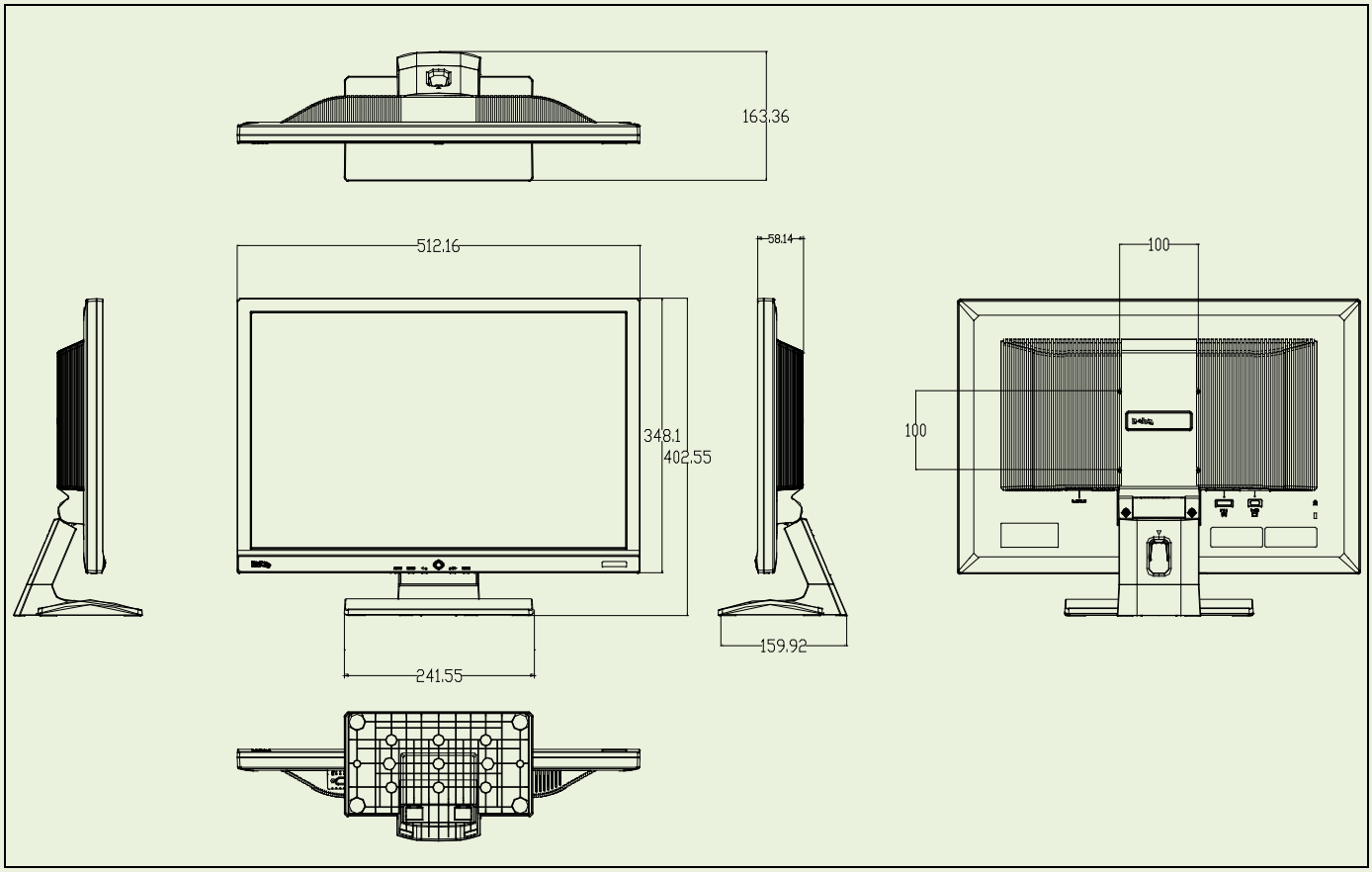
Six Angles' View



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Product Disassembly

1). Back View as Fig1

Place the monitor face down on a smooth surface as Fig 1. Be careful to avoid scratch and injury during the uninstall.

Fig1

2).Remove the STAND-BASE ASS'Y

Remove the two screws in red to remove the STAND-BASE ASS'Y as Fig2.

Fig2

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3).Remove the Rear Cover and Bezel

The arrows in blue are the hook that we should put attention to when remove the rear cover. Use plastic putty knife to release the 5 hooks on the bottom, 8 hooks on the top, 4 hooks on the left, 4 hooks on the right and remove the only one screw in red as Fig.3 on the rear cover, then you can easily remove the rear cover and bezel.

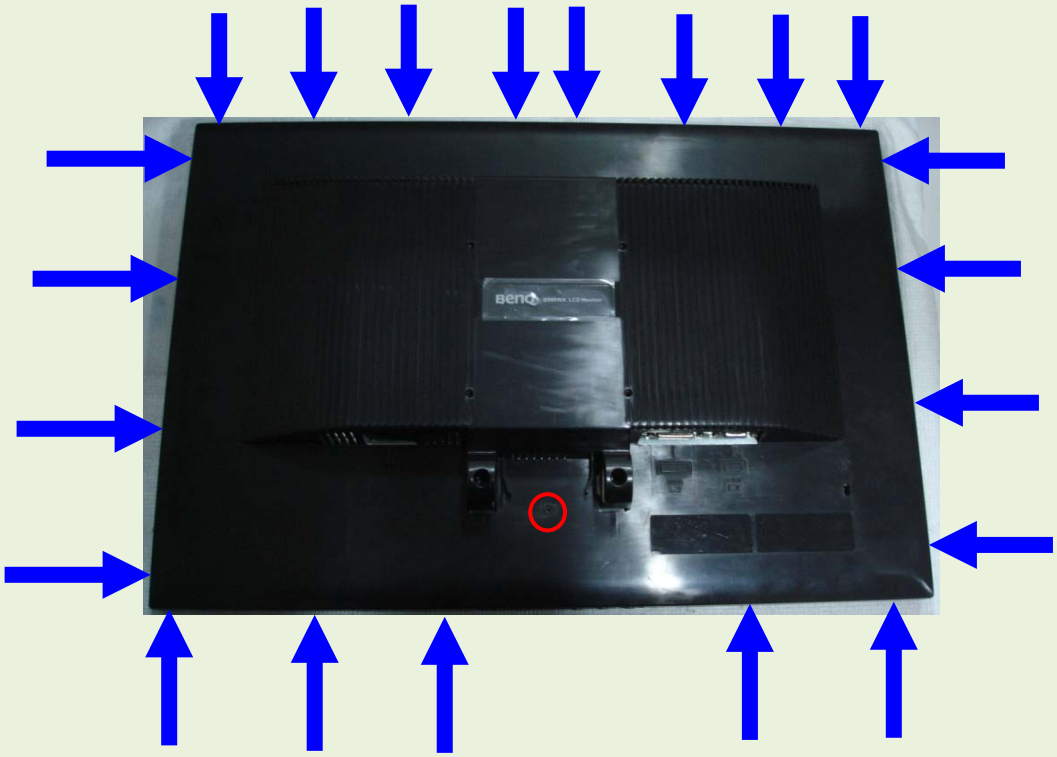

Fig.3

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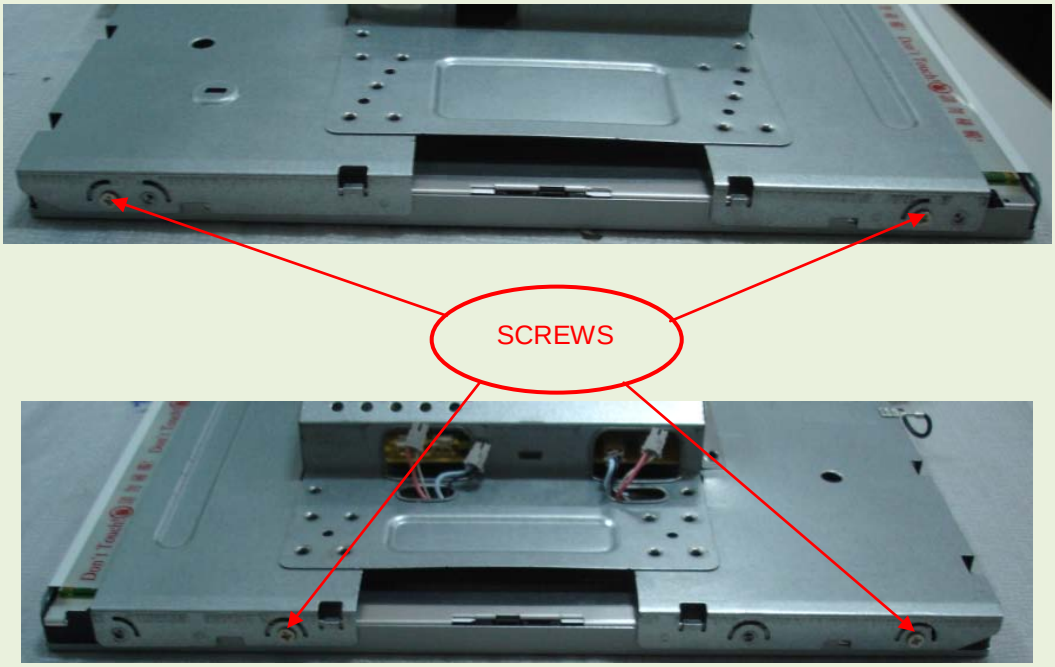
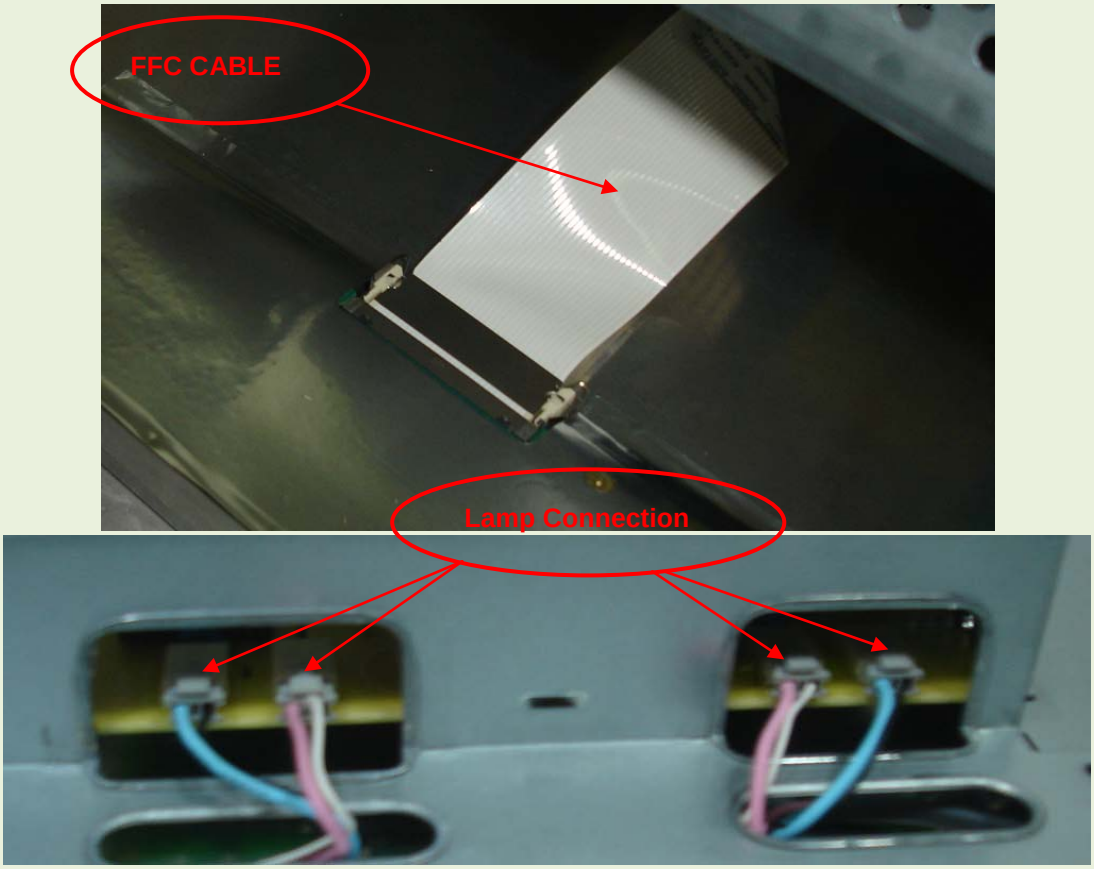
4).Remove the Panel

Remove the 4 screws on the side of main frame first, and then disconnect the Lamp Connections and LVDS Cable connection.





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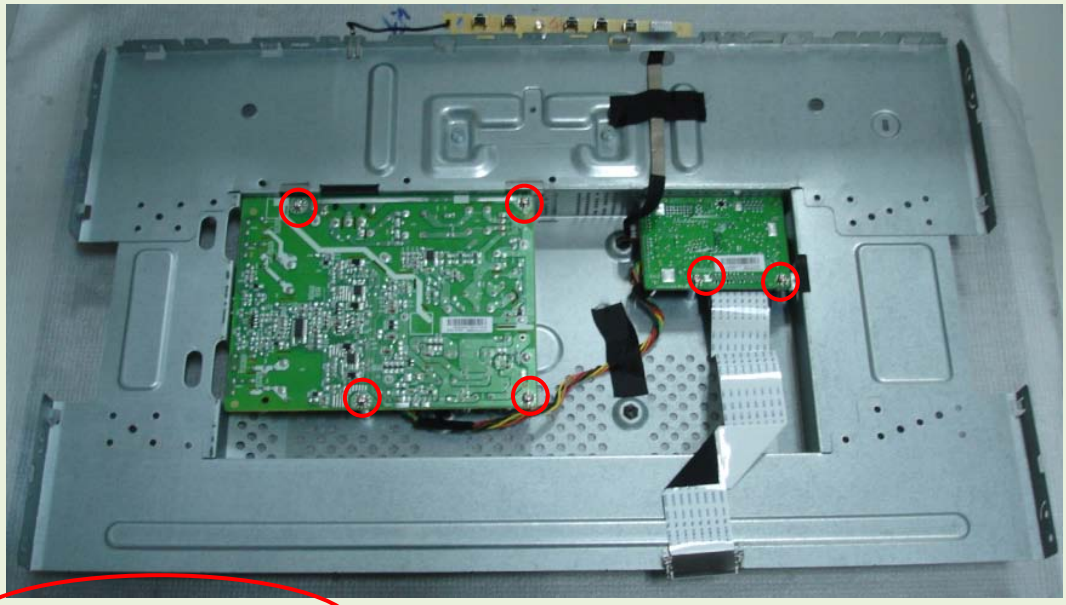
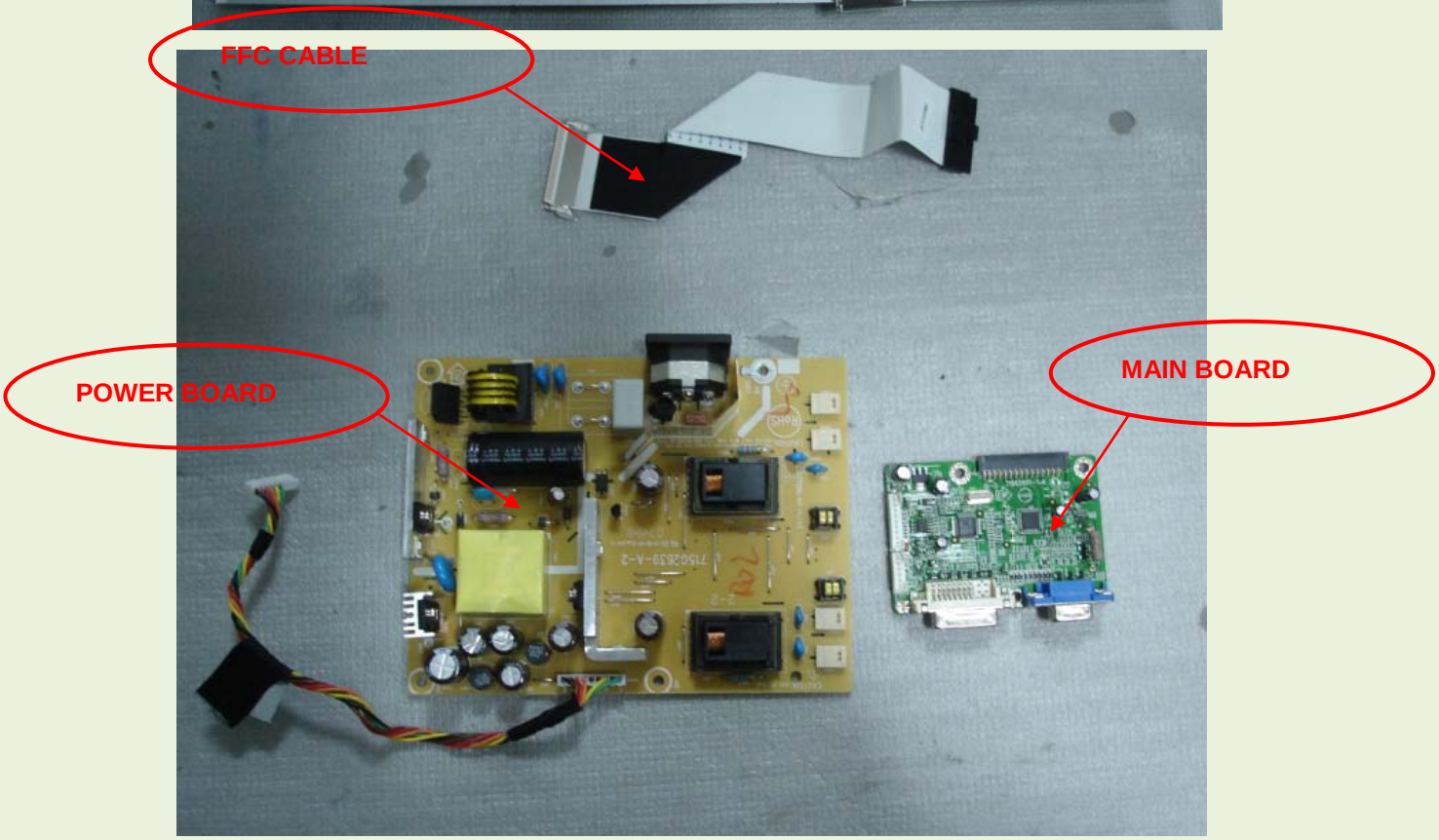
5).Remove the Main Board and Power Board

Remove the screws in red and disconnect the all connections, at last you can get the Main Board and Power Board as follow.





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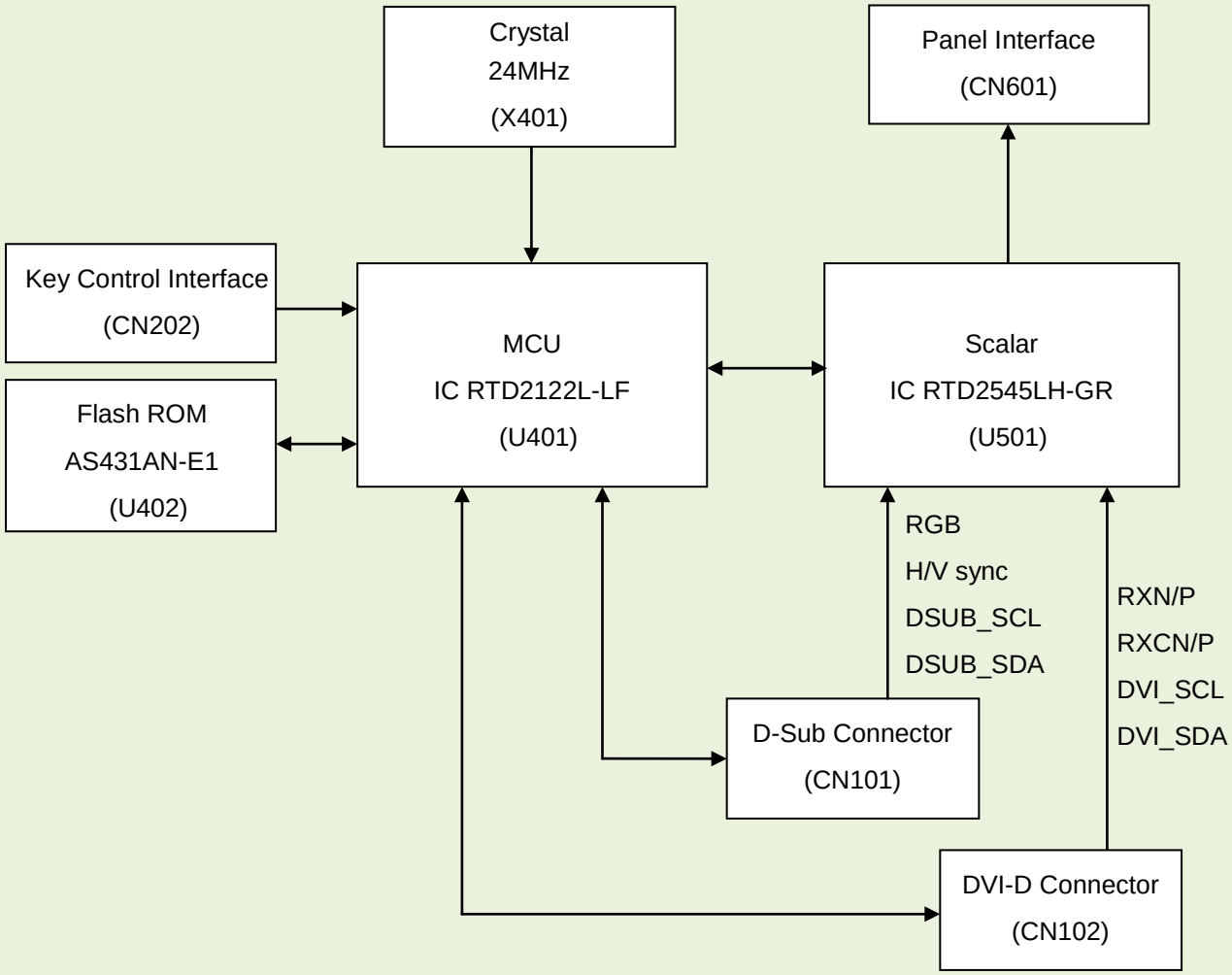
Block Diagram

Main Board



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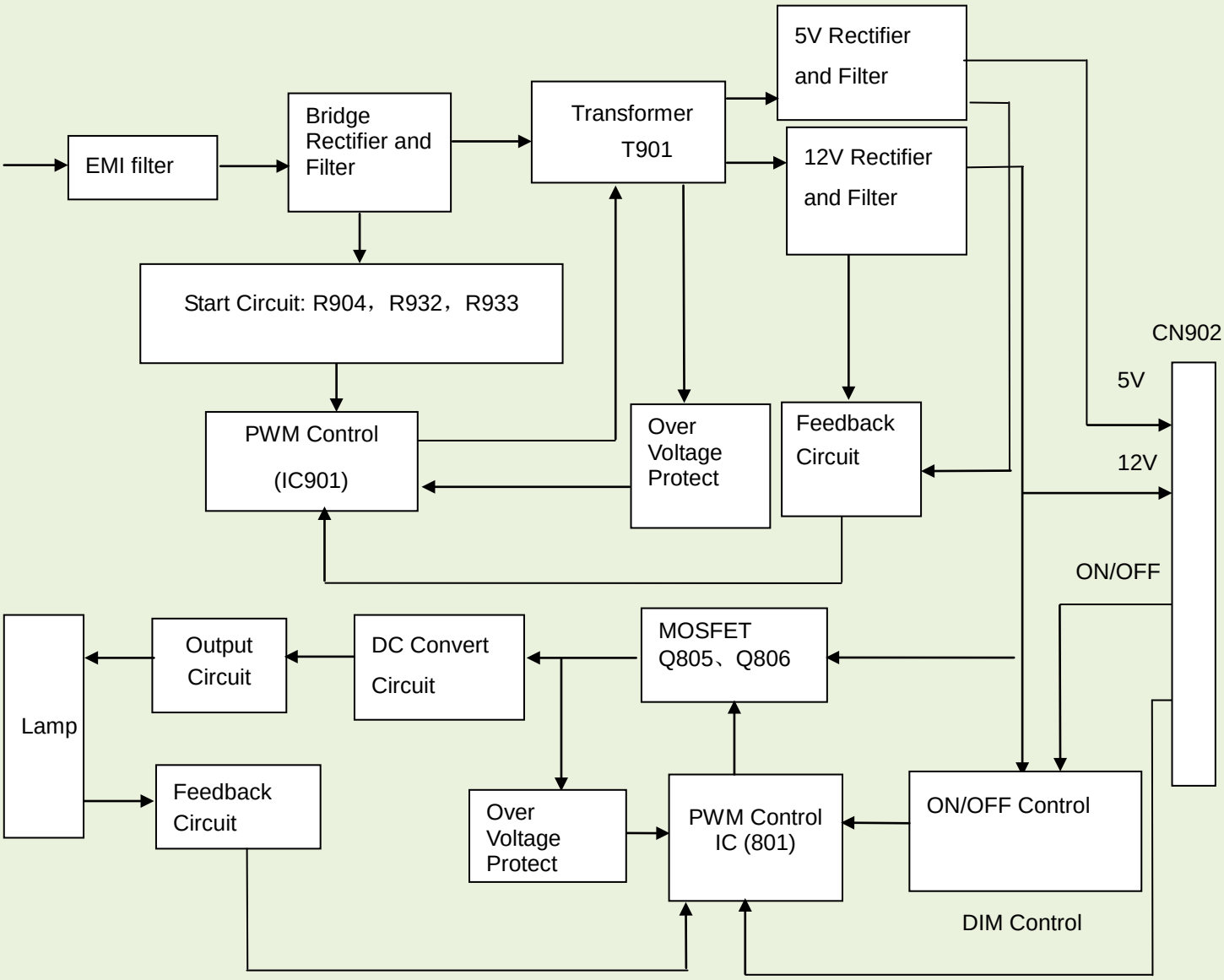
Power Board



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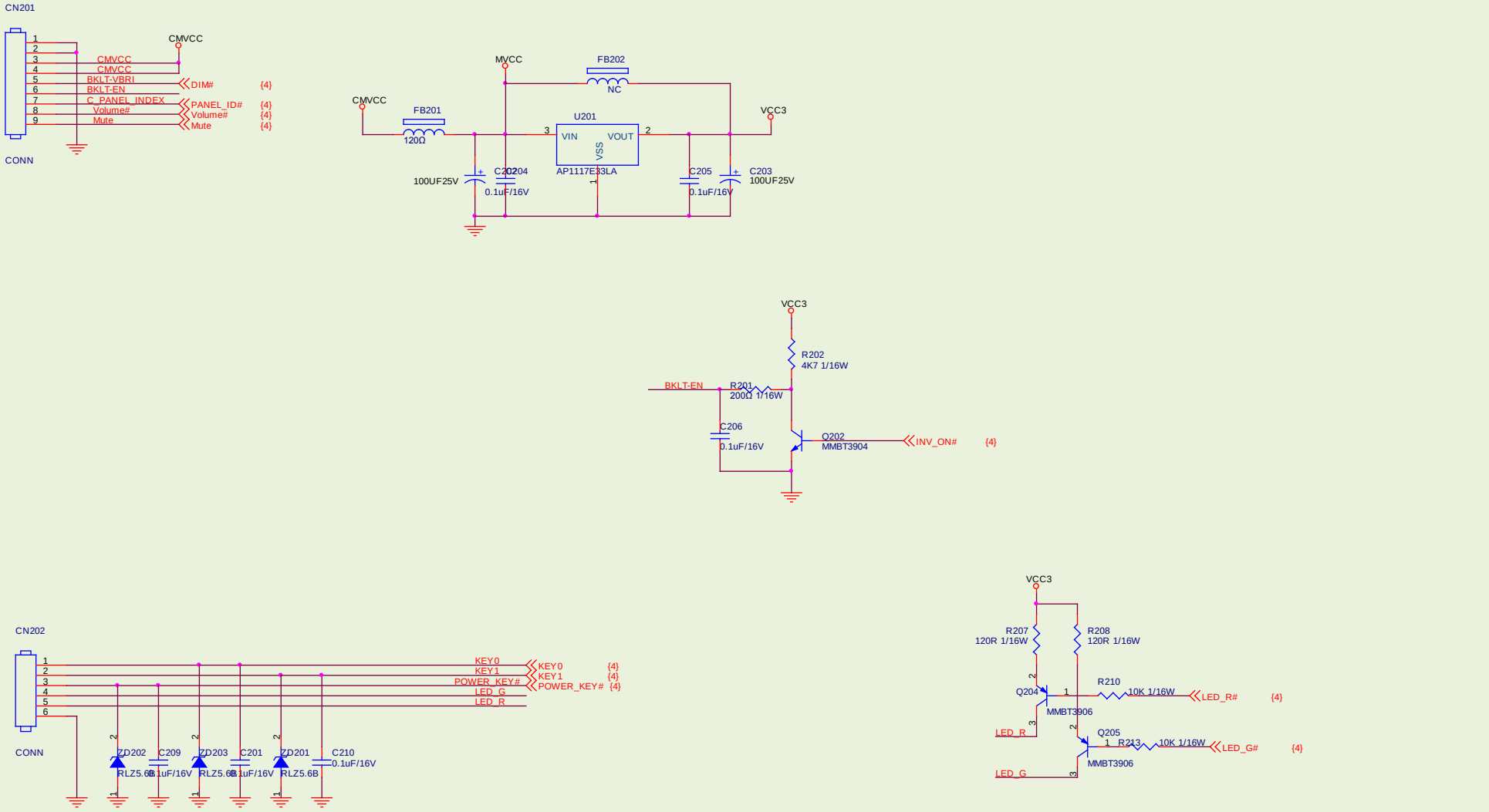
Schematic Diagram

Main Board



TPV (Top Victory Electronics Co., Ltd.)		OEM MODEL		Size	C
話 隔 瓜 錮 腹	G2507-M01-K-X-16-091228	TPV MODEL		Rev	1.0
Key Component	3.POWER	PCB NAME	715G2507-2-K	称 爹	<称 爹>
Date	Monday, December 28, 2009	Sheet	3 of 7		

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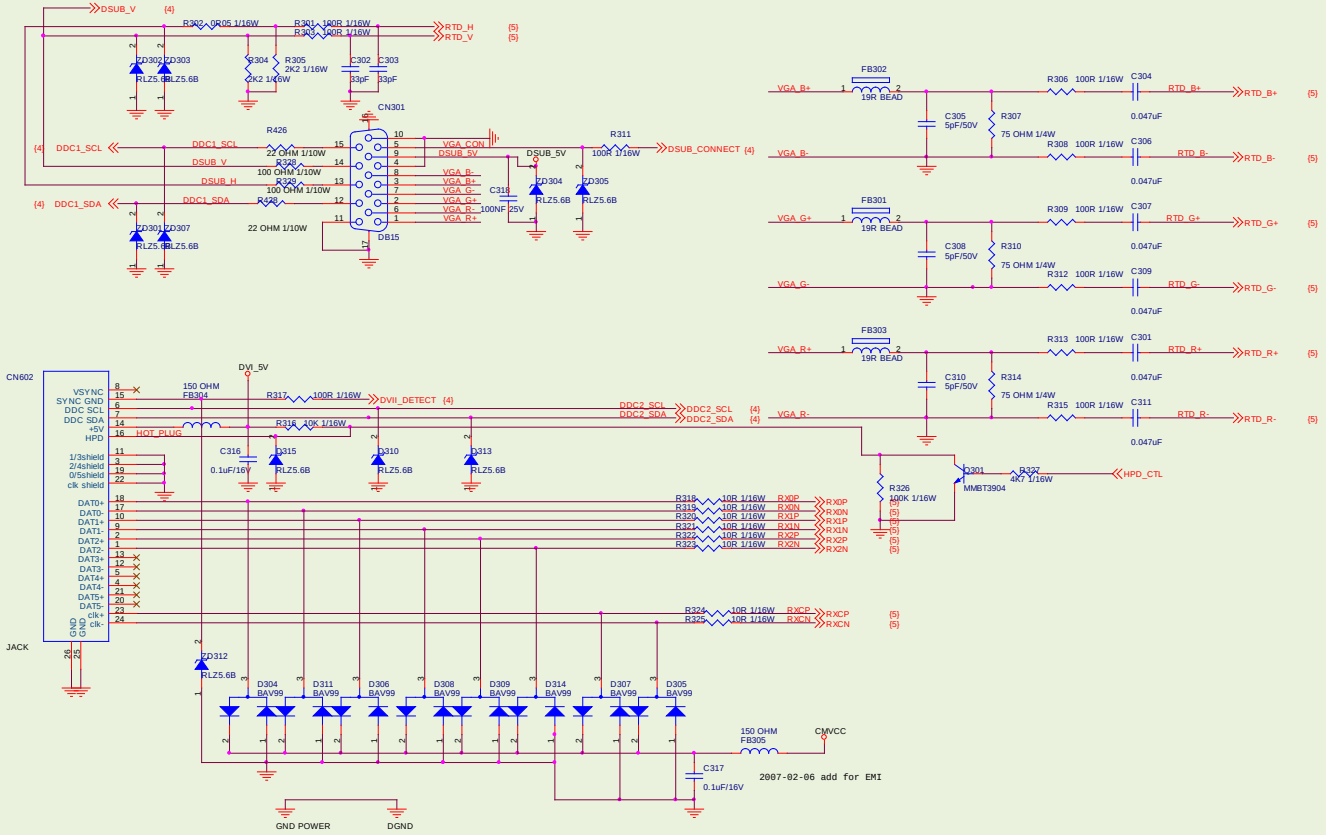

T P V (Top Victory Electronics Co., Ltd.)		OEM MODEL		Size	C
	G2507-M01-K-X-16-091228	TPV MODEL		Rev	1.0
Key Component	4.INPUT	PCB NAME	715G2507-2-K		
Date	Monday, December 28, 2009	Sheet	4 of 7		

G2507-H-K-X-2-070618

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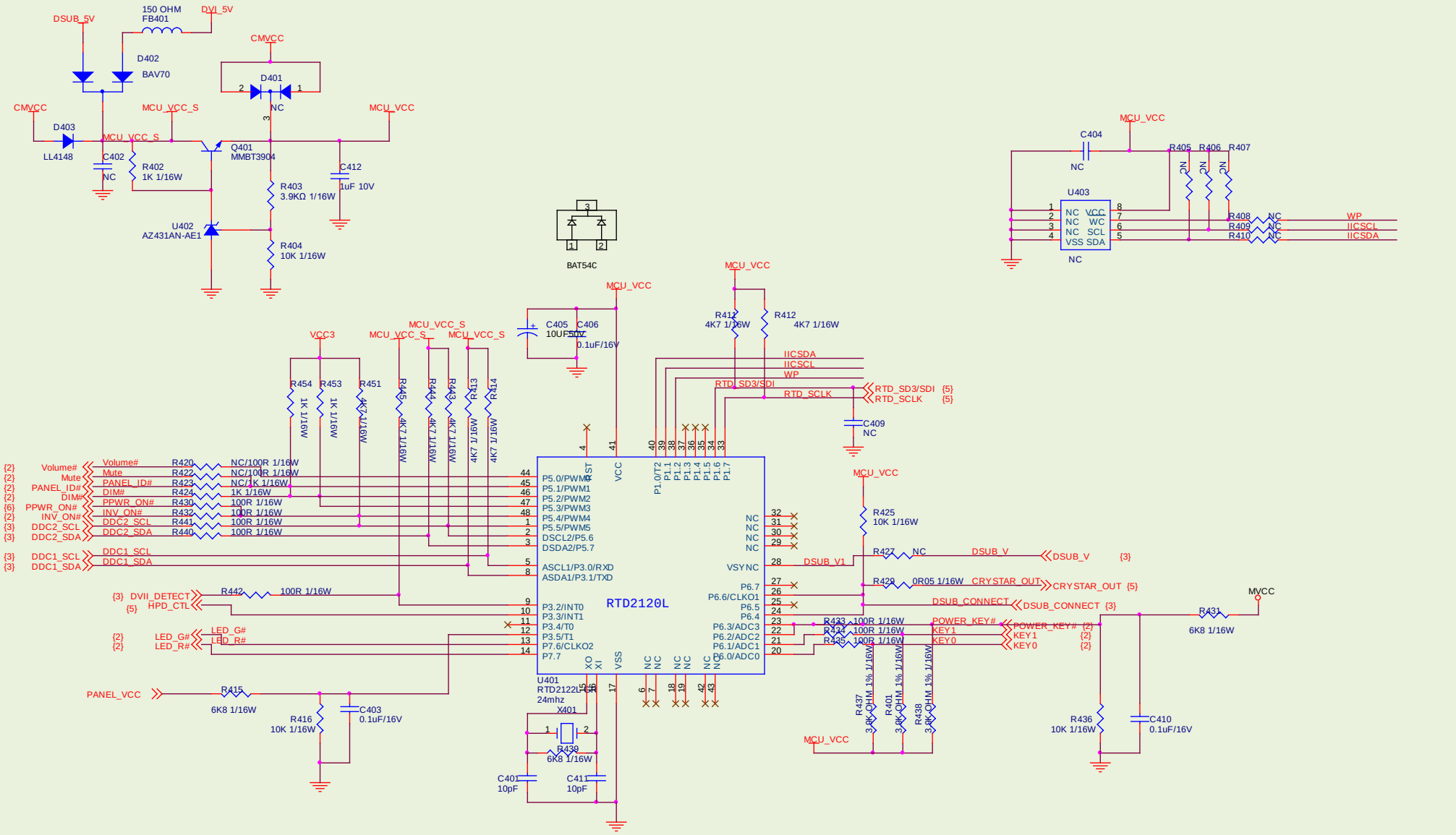

T P V （Top Victory Electronics Co., Ltd.）		OEM MODEL		Size	B
結 隔 爪 鋼 腹	G2507-M01-K-X-16-091228	TPV MODEL		Rev	1.0
Key Component	5.MCU/RTD2120L	PCB NAME	715G2507-2-K	称 爹	<称爹>
Date	Monday, December 28, 2009	Sheet	5 of 7		

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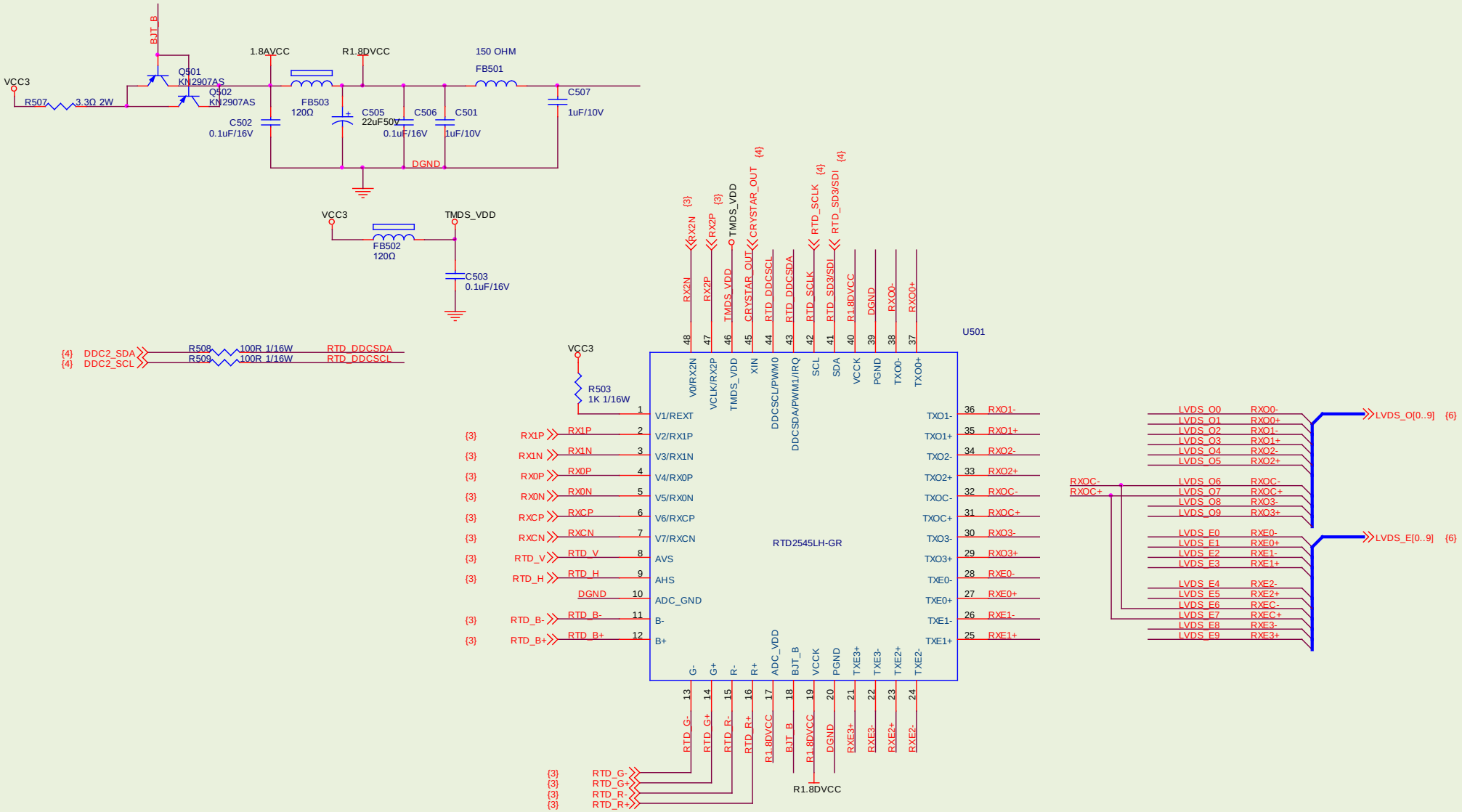

T P V (Top Victory Electronics Co., Ltd.)		OEM MODEL		Size	B
紙 隔 瓜 鋼 腹	G2507-M01-K-X-16-091228	TPV MODEL		Rev	1.0
Key Component	6 RTD2525L	PCB NAME	715G2507-2-K	称 爹	<称爹>
Date	Monday, December 28, 2009	Sheet	6 of 7		

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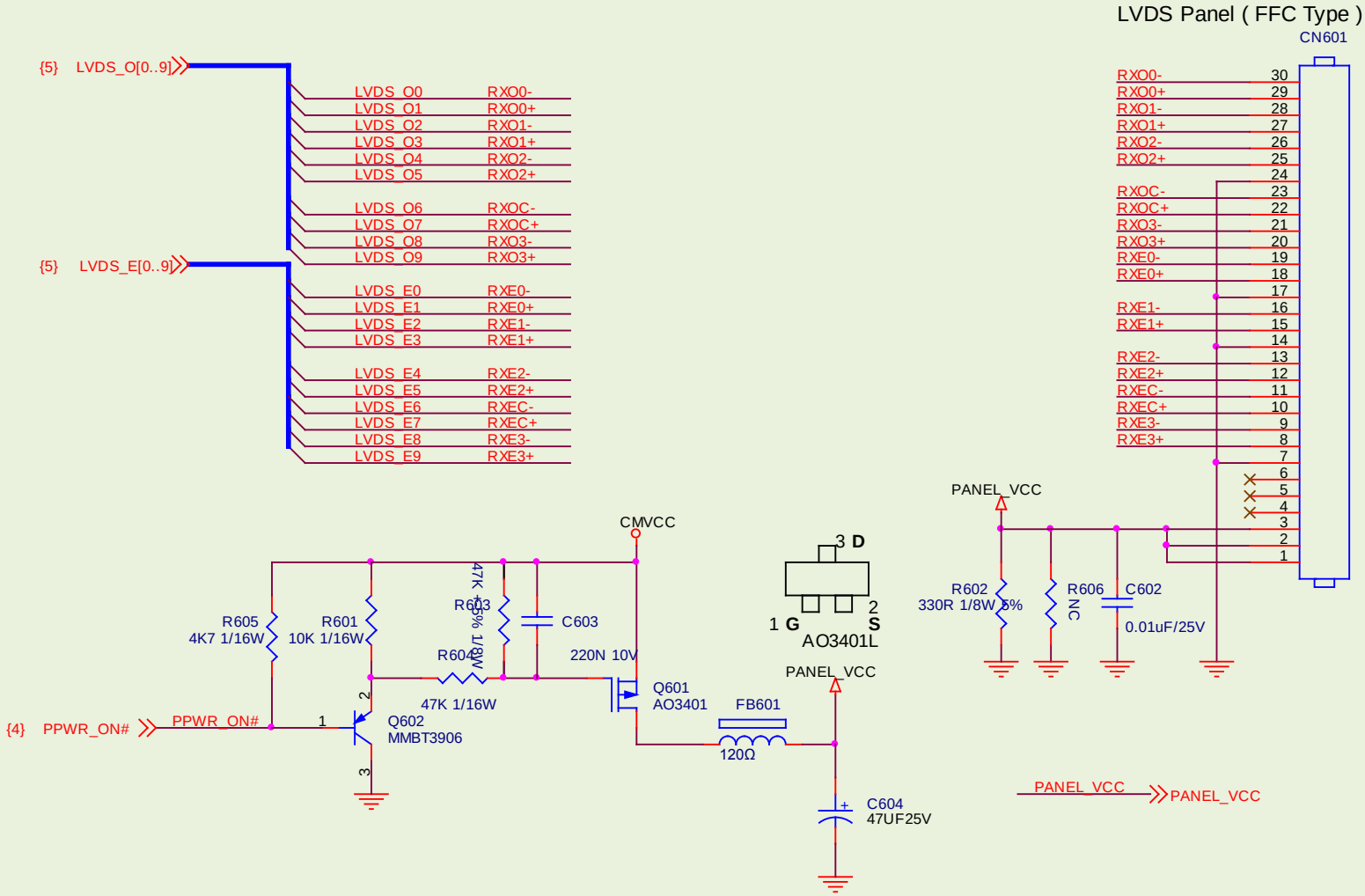

T P V (Top Victory Electronics Co., Ltd.)		OEM MODEL		Size	A
結 隔 瓜 綢 腹	G2507-M01-K-X-16-091228	TPV MODEL		Rev	1.0
Key Component	7.OUTPUT	PCB NAME	715G2507-2-K	称爹	<称爹>
Date	Monday, December 28, 2009	Sheet	7 of 7		

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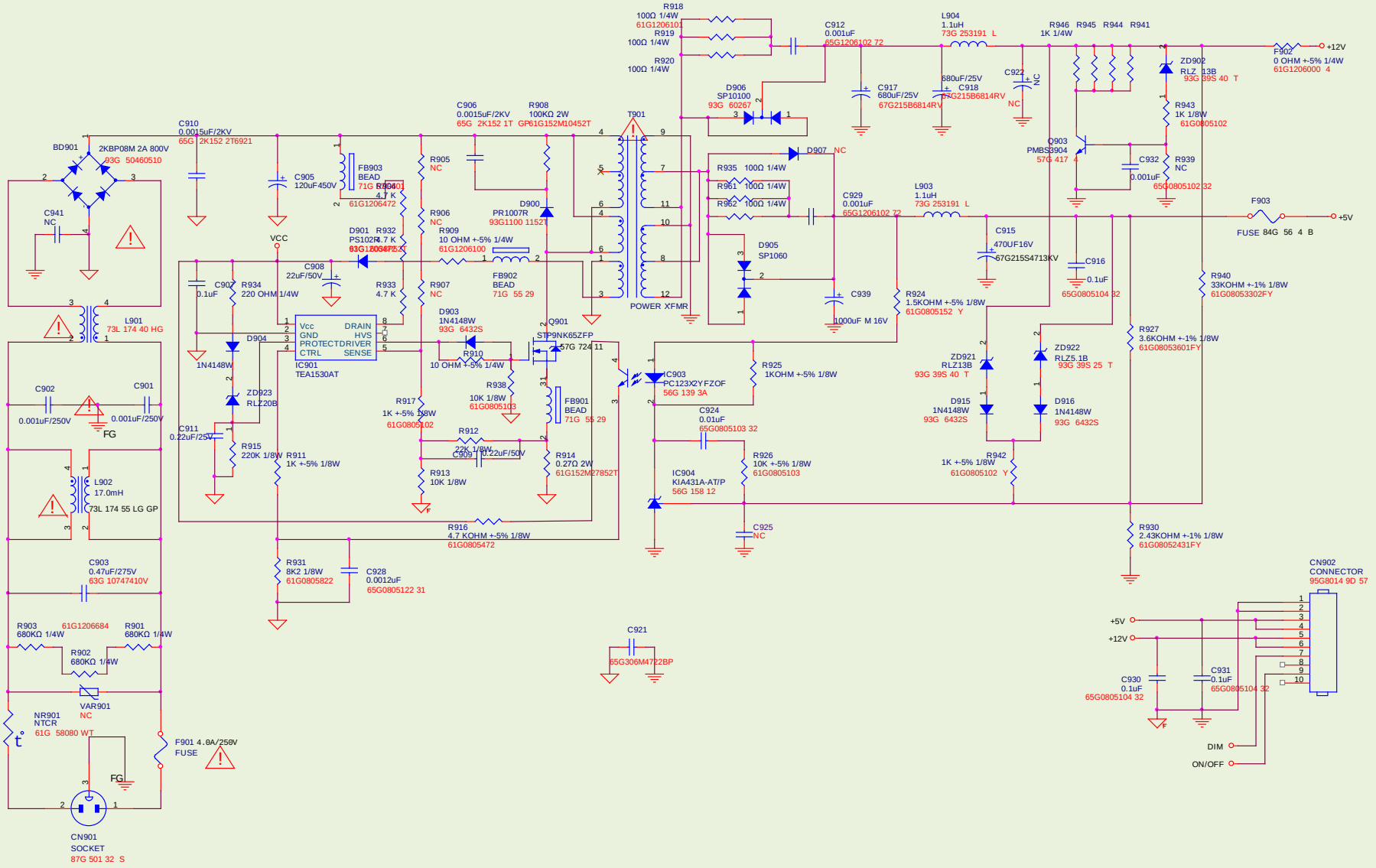
Power Board



T P V (Top Victory Electronics Co . , Ltd.)		OEM MODEL		Size	A3
話 隨 瓜 銅 龍	G2639-3-2-X-3-100112	TPV MODEL		Rev	1.0
Key Component	01.COVER	PCB NAME	715G2639-3-2	称 爹	
Date	Tuesday , January 12, 2010	Sheet	1 of 3		

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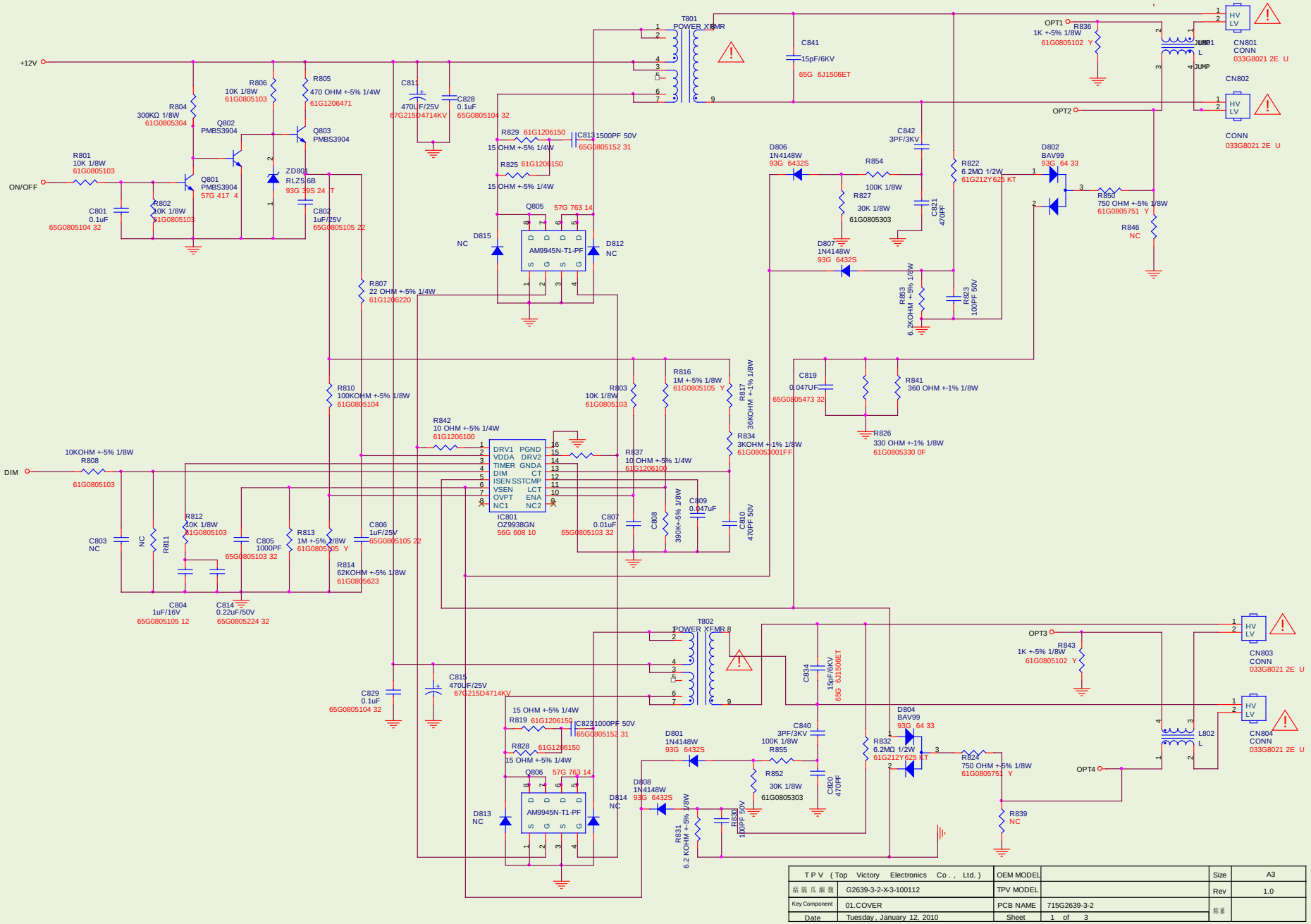

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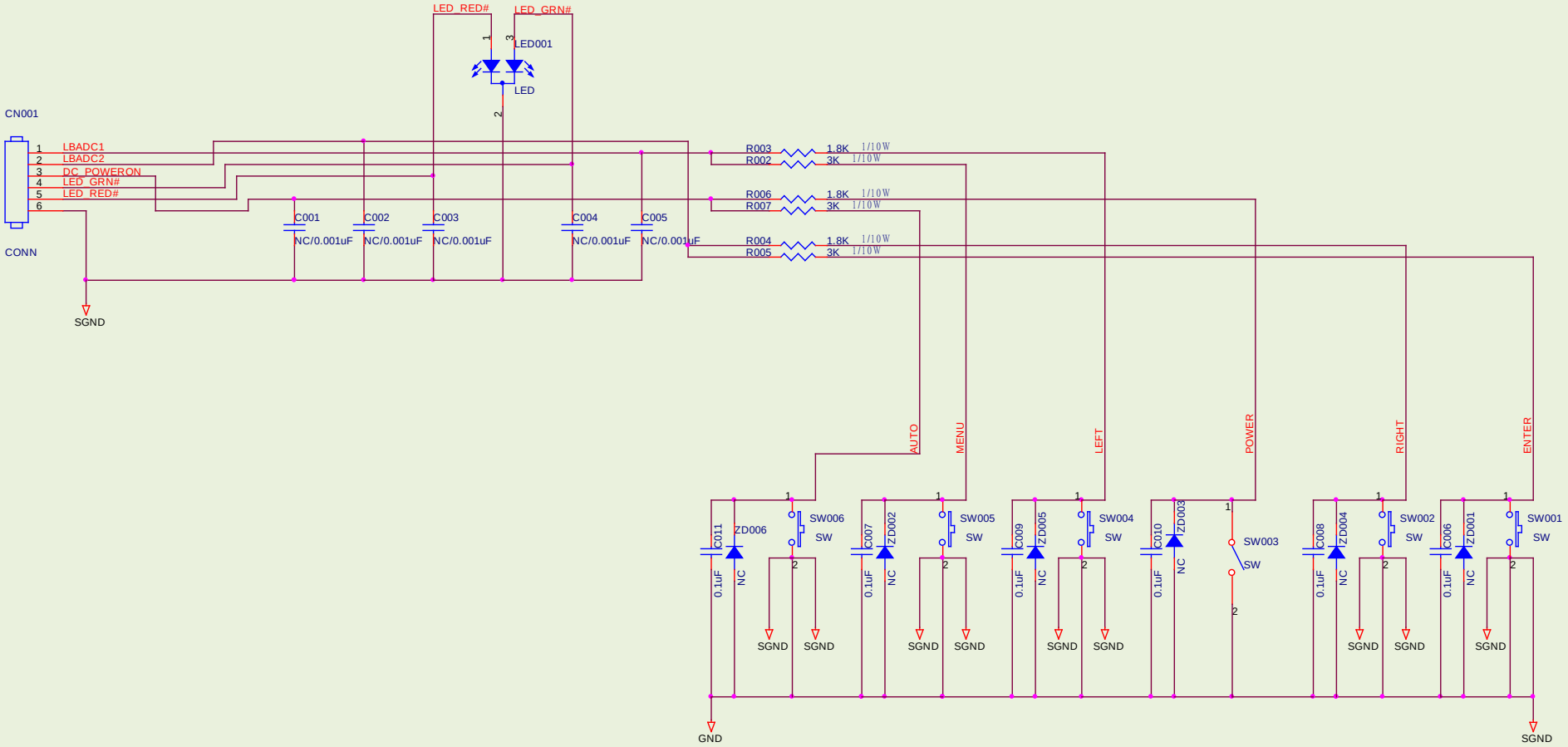
Key Board



T P V (Top Victory Electronics Co . , Ltd.)		OEM MODEL		Size	B
結 隔 瓜 網 腹	G2695-C-1-X-2-070604	TPV MODEL		Rev	C
Key Component		PCB NAME		称 爹	<称爹>
Date	02.KEY_BOARD Sunday , July 08, 2007	Sheet	2 of 2		

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Troubleshooting

Frequently asked questions (FAQ)

The image is blurred:

Read the instructions on the link "**Adjusting the Screen Resolution**" on the CD, and then select the correct resolution, refresh rate and make adjustments based on these instructions.

How do you use a VGA extension cable?

Remove the extension cable for the test. Is the image now in focus? If not, optimize the image by working through the instructions in the "**Adjusting the refresh rate**" section on the link "**Adjusting the Screen Resolution**". It is normal for blurring to occur due to conduction losses in extension cables. You can minimize these losses by using an extension cable with better conduction quality or with a built-in booster.

Does the blurring only occur at resolutions lower than the native (maximum) resolution?

Read the instructions on the link "**Adjusting the Screen Resolution**" on the CD. Select the native resolution.

Pixel errors can be seen:

One of several pixels is permanently black, one or more pixels are permanently white, one or more pixels are permanently red, green, blue or another color.

- Clean the LCD screen.
- Cycle power on-off.
- These pixels are permanently on or off and that is a natural defect occurs in LCD technology.

The image has a faulty coloration:

It has a yellow, blue or pink appearance.

Select MENU > PICTURE > Color > Reset Color, and then choose “YES” in the “Caution” message box to reset the color settings to the factory defaults.

If the image is still not correct and the OSD also has faulty coloration, this means one of the three primary colors is missing in the signal input. Now check the signal cable connectors. If any pin is bent or broken off, please contact your dealer to get necessary support.

No image can be seen:

Is the prompt on the display illuminated in green?

If the LED is illuminated in green and there is a message “Out of Range” on the screen, this means you are using a display mode that this monitor does not support, please change the setting to one of the supported mode. Please read the “**Preset display modes**” section from the link "**Adjusting the Screen Resolution**".

Faint shadow from the static image displayed is visible on the screen:

- Activate the power management function to let your computer and monitor go into a low power "sleep" mode when not actively in use.
- Use a screensaver to prevent the occurrence of image retention.

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Is the prompt on the display illuminated in orange?

If the LED is illuminated in orange, the power management mode is active. Press any button on the computer keyboard or move the mouse. If that does not help, check the signal cable connectors. If any pin is bent or broken off, please contact your dealer to get necessary support.

Is the prompt on the display not illuminated at all?

Check the power supply mains socket, the external power supply and the mains switch.

The image is distorted, flashes or flickers:

Read the instructions on the link "**Adjusting the Screen Resolution**" on the CD, and then select the correct resolution, refresh rate and make adjustments based on these instructions.

You are running the monitor at its native resolution, but the image is still distorted.

Images from different input sources may appear distorted or stretched on the monitor running at its native resolution. To have the optimal display performance of each type of input sources, you can use the "Display Mode" function to set a proper aspect ratio for the input sources.

The image is displaced in one direction:

Read the instructions on the link "**Adjusting the Screen Resolution**" on the CD, and then select the correct resolution, refresh rate and make adjustments based on these instructions.

The OSD controls are inaccessible:

- To unlock the OSD controls when the OSD is preset to be locked, press and hold the “MENU” key for 15 seconds to enter the “OSD Lock” option and make changes.
- Alternatively, you may use ◀ or ▶ keys to select “NO” in the “OSD Lock” submenu from the “OSD Settings” menu (under SYSTEM), and all OSD controls will be accessible.

If your problems remain after checking this manual, please contact your place of purchase or e-mail us at: Support@BenQ.com

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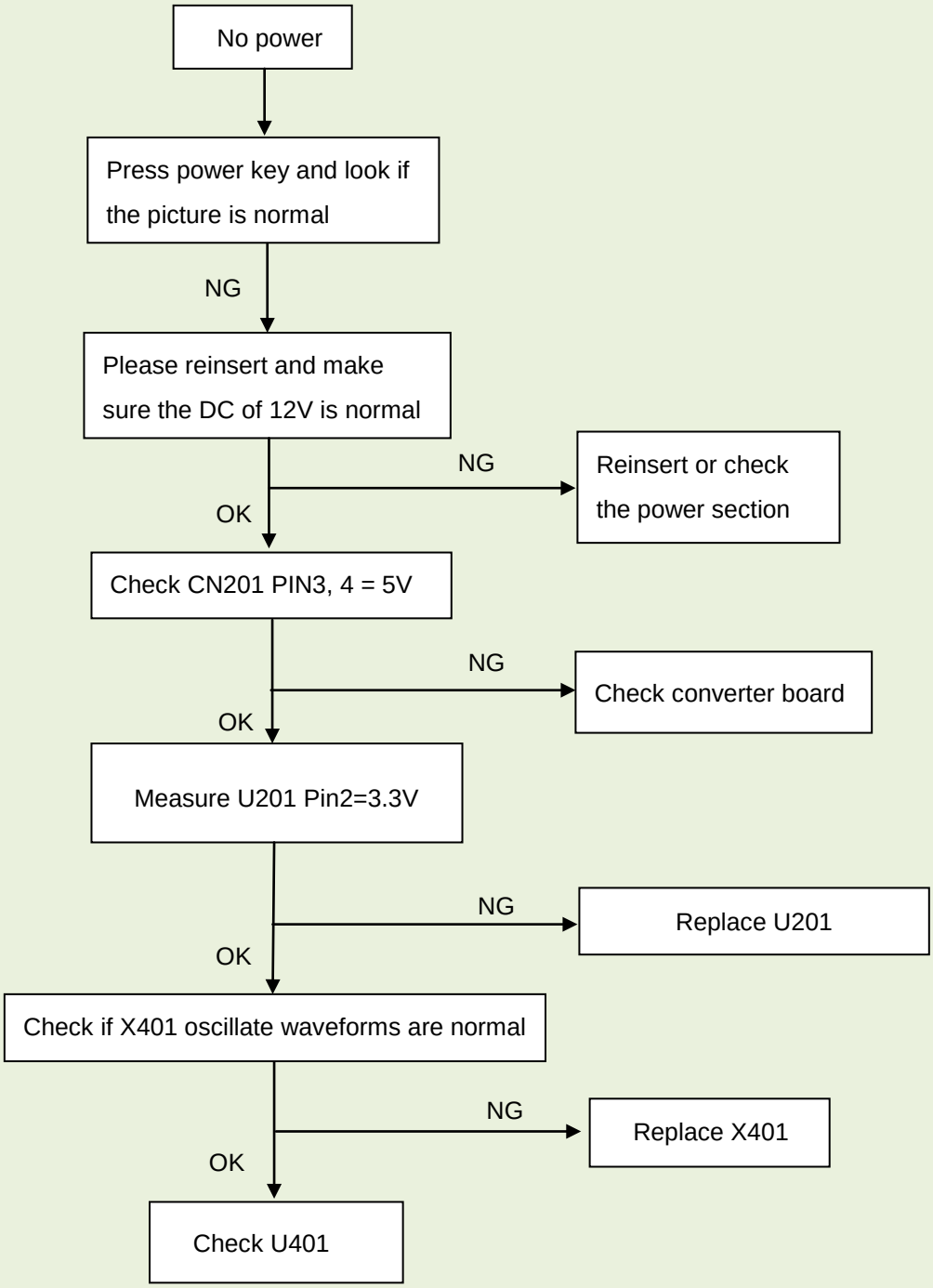
Main Board

(1) No Power



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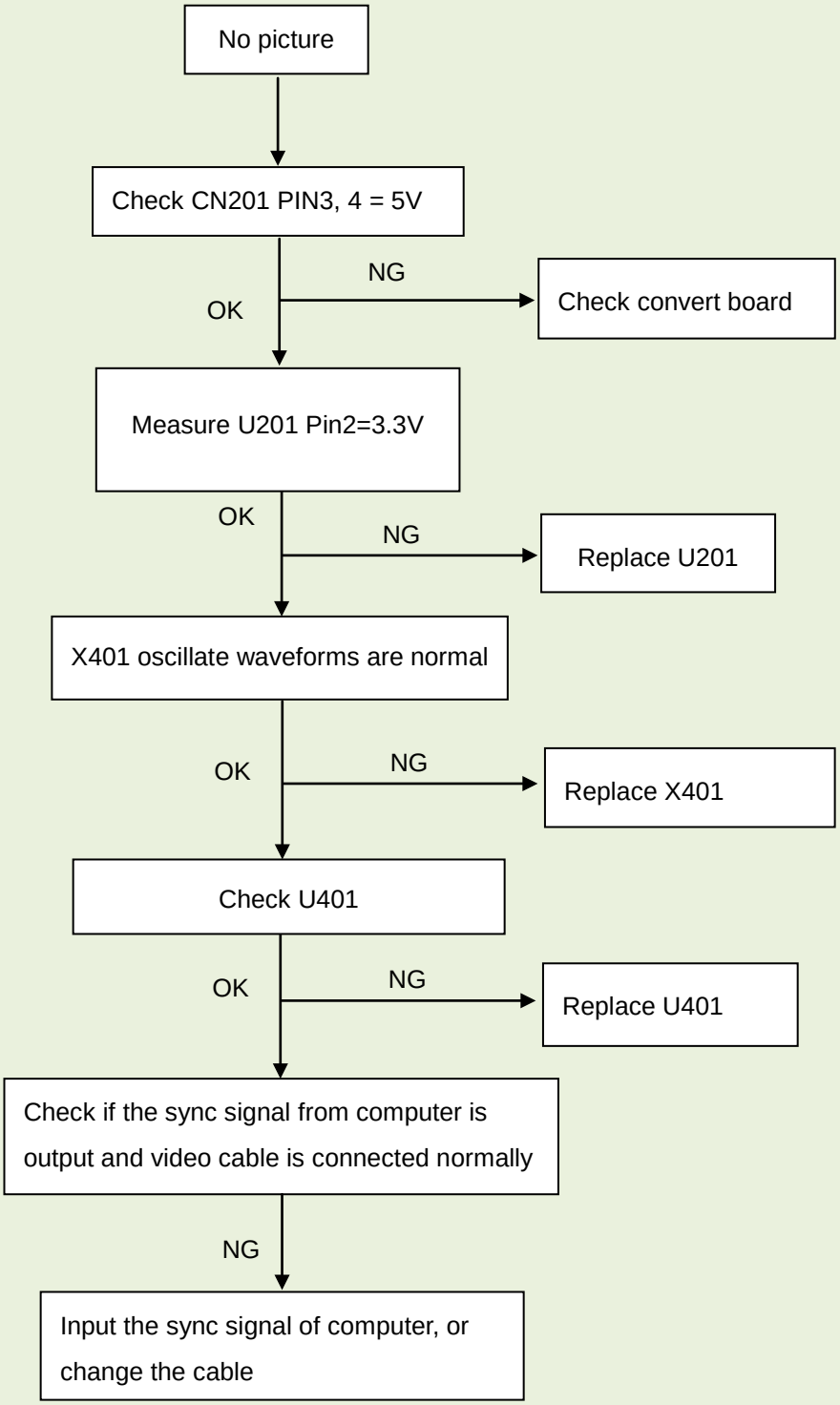
(2) No picture



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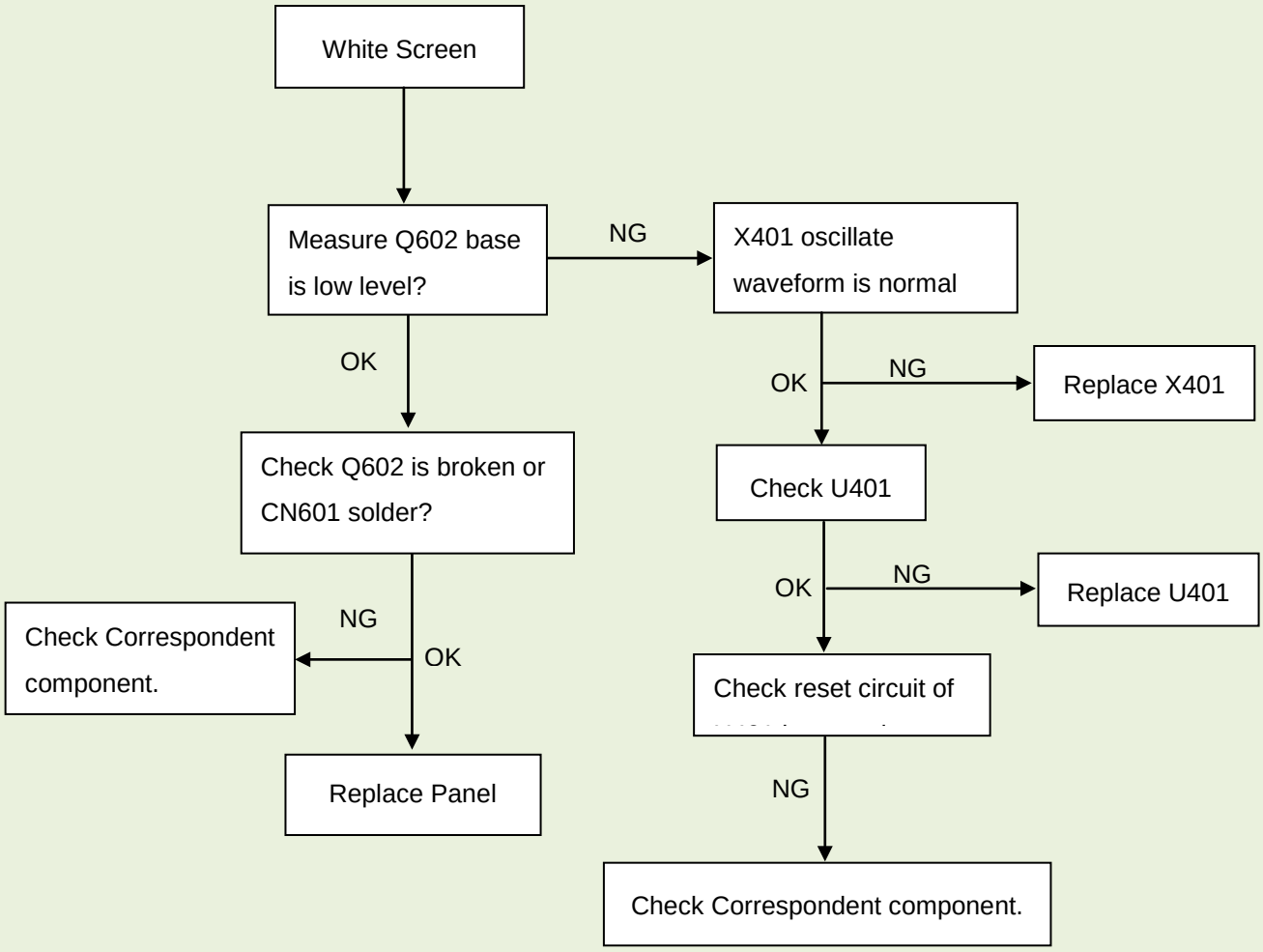
(3) White screen



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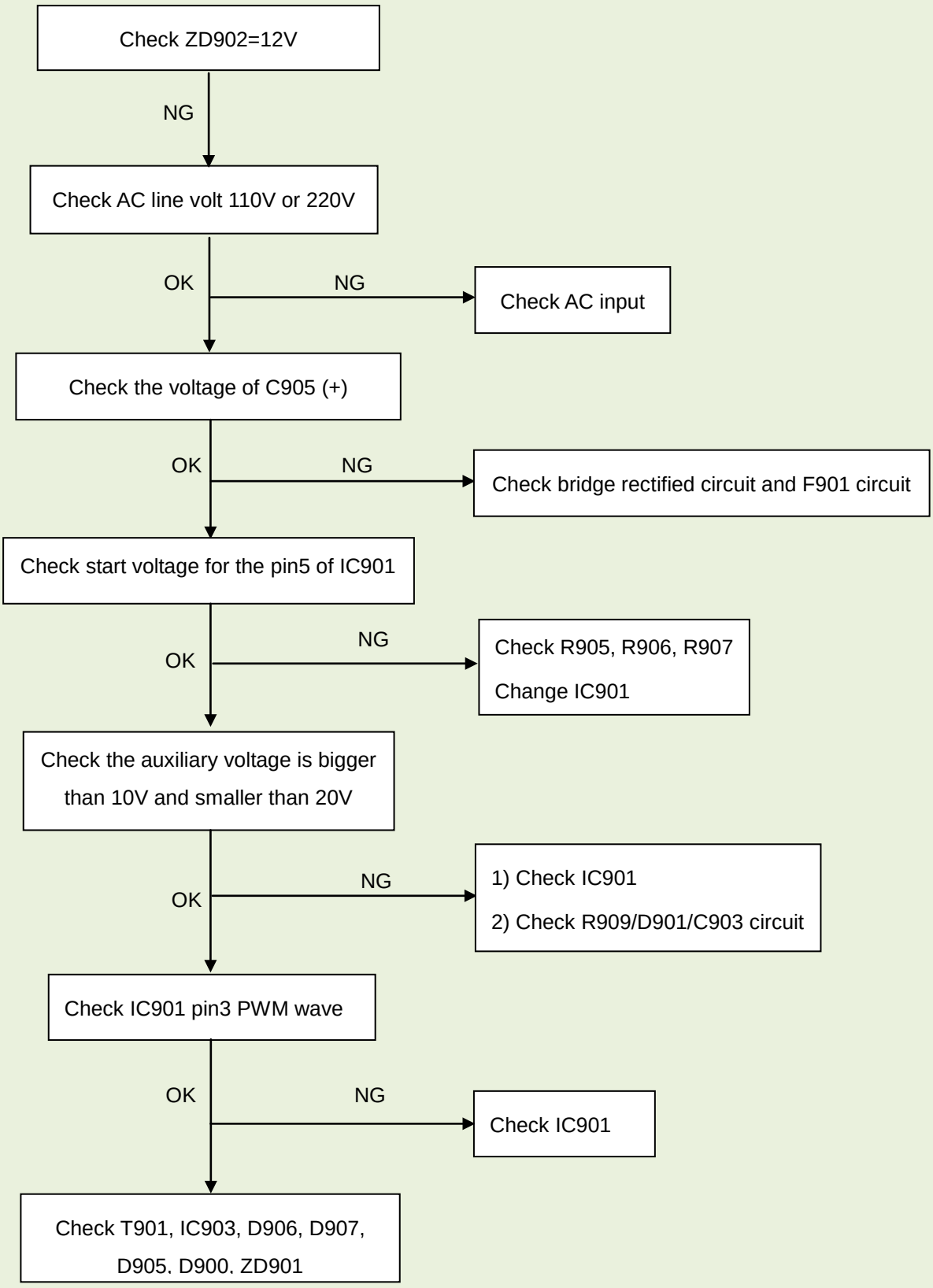
Power Board

No Power



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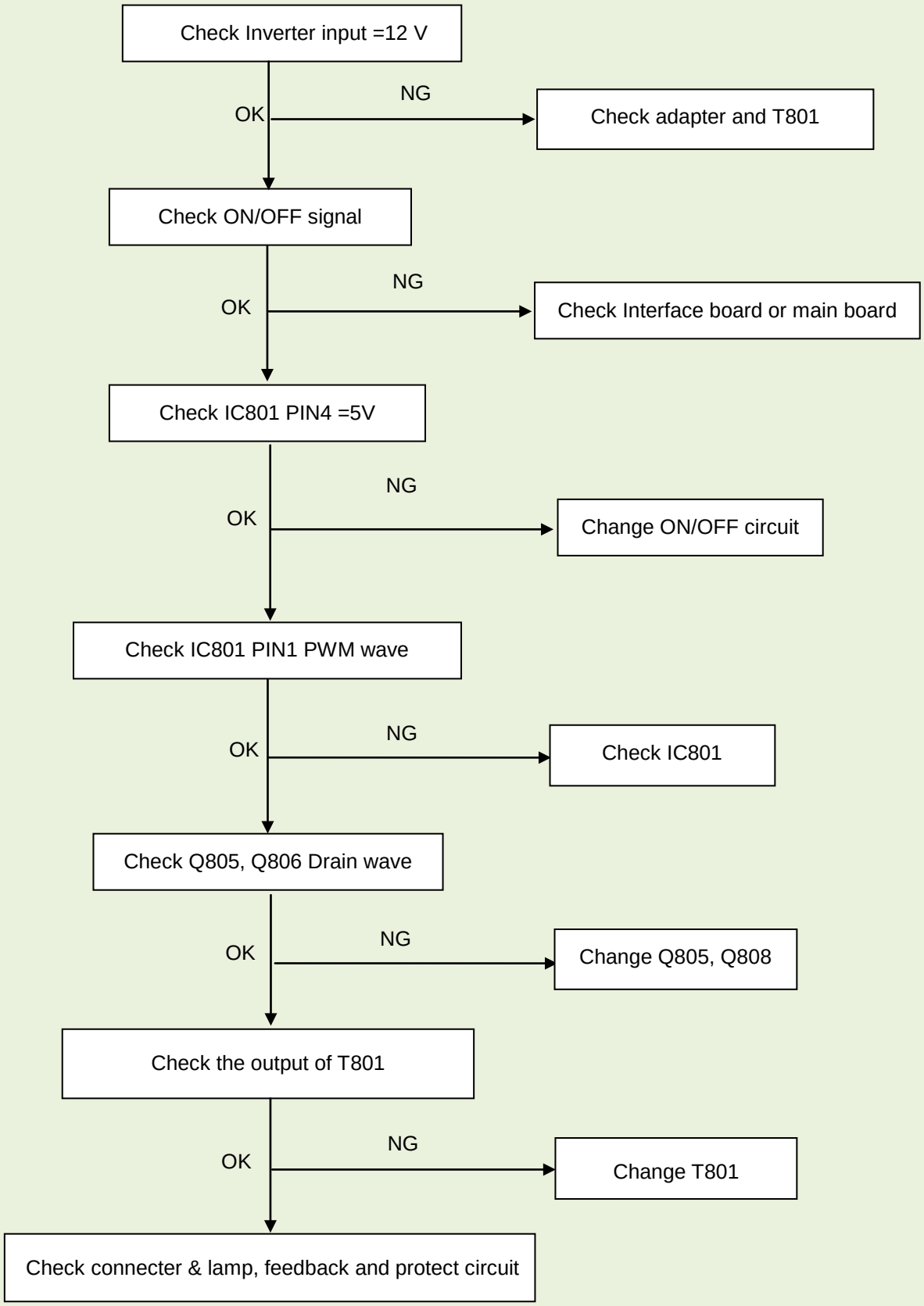
W / LED, No Backlight



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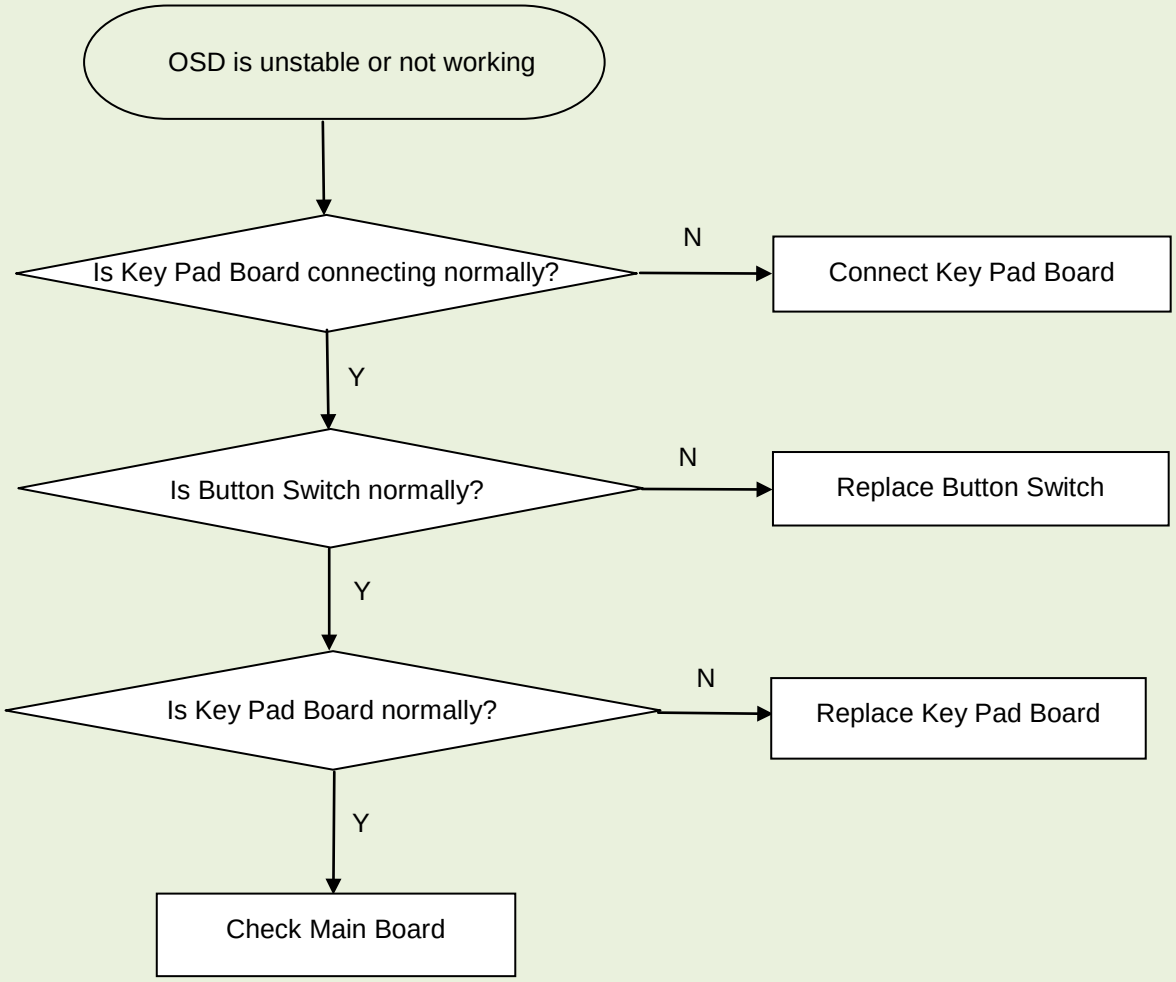
Key Board



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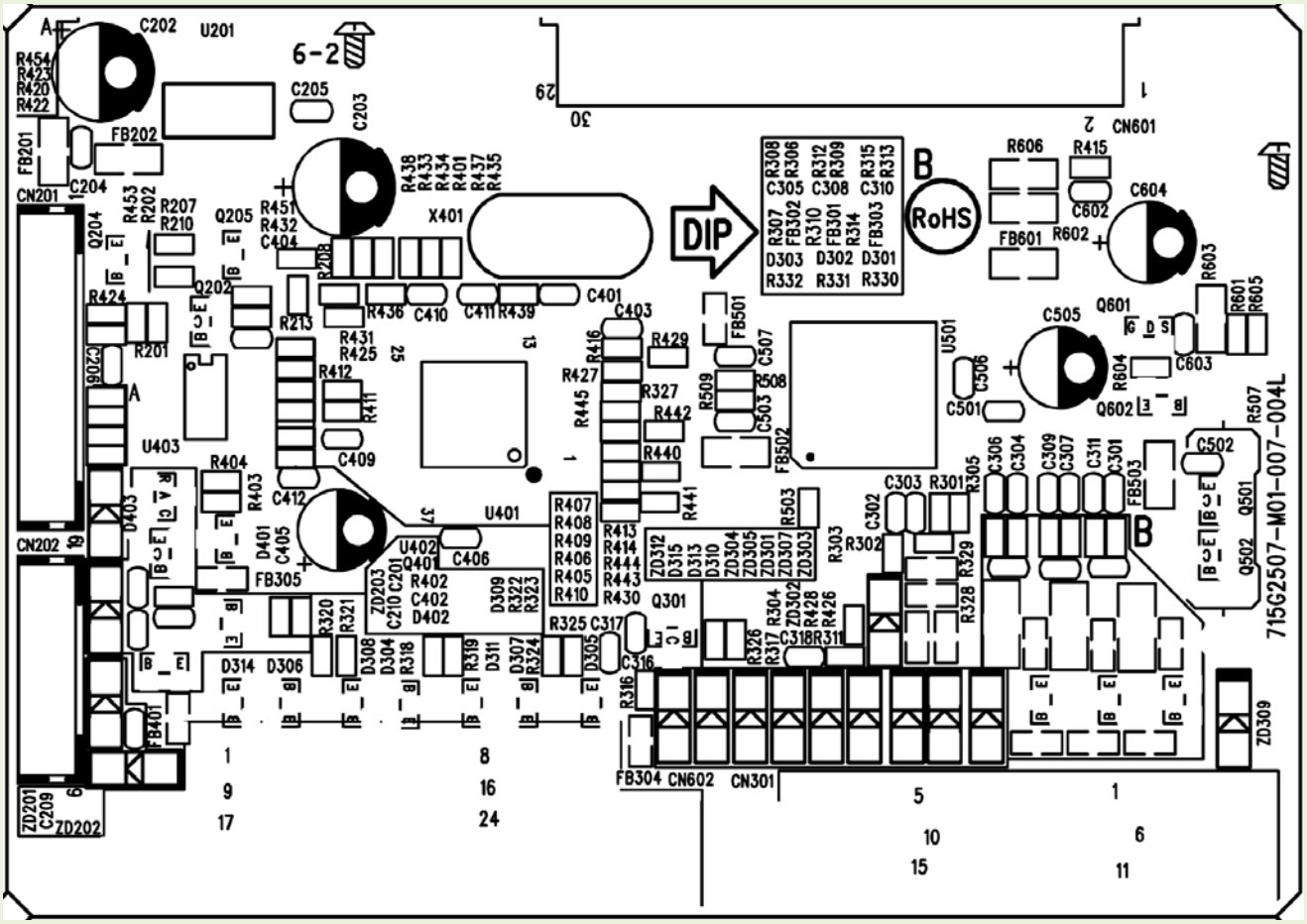
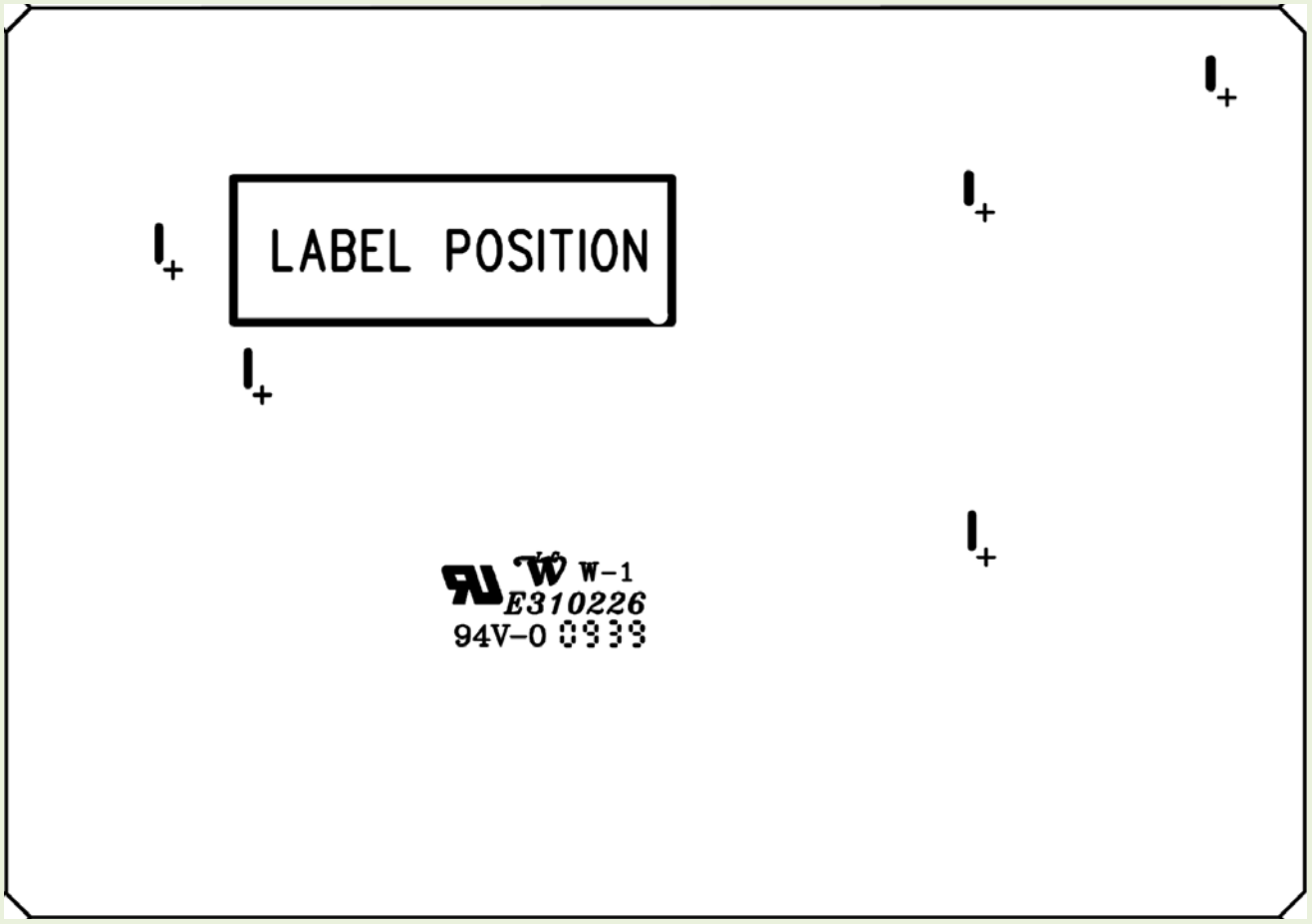
PCB LAYOUT

Main Board





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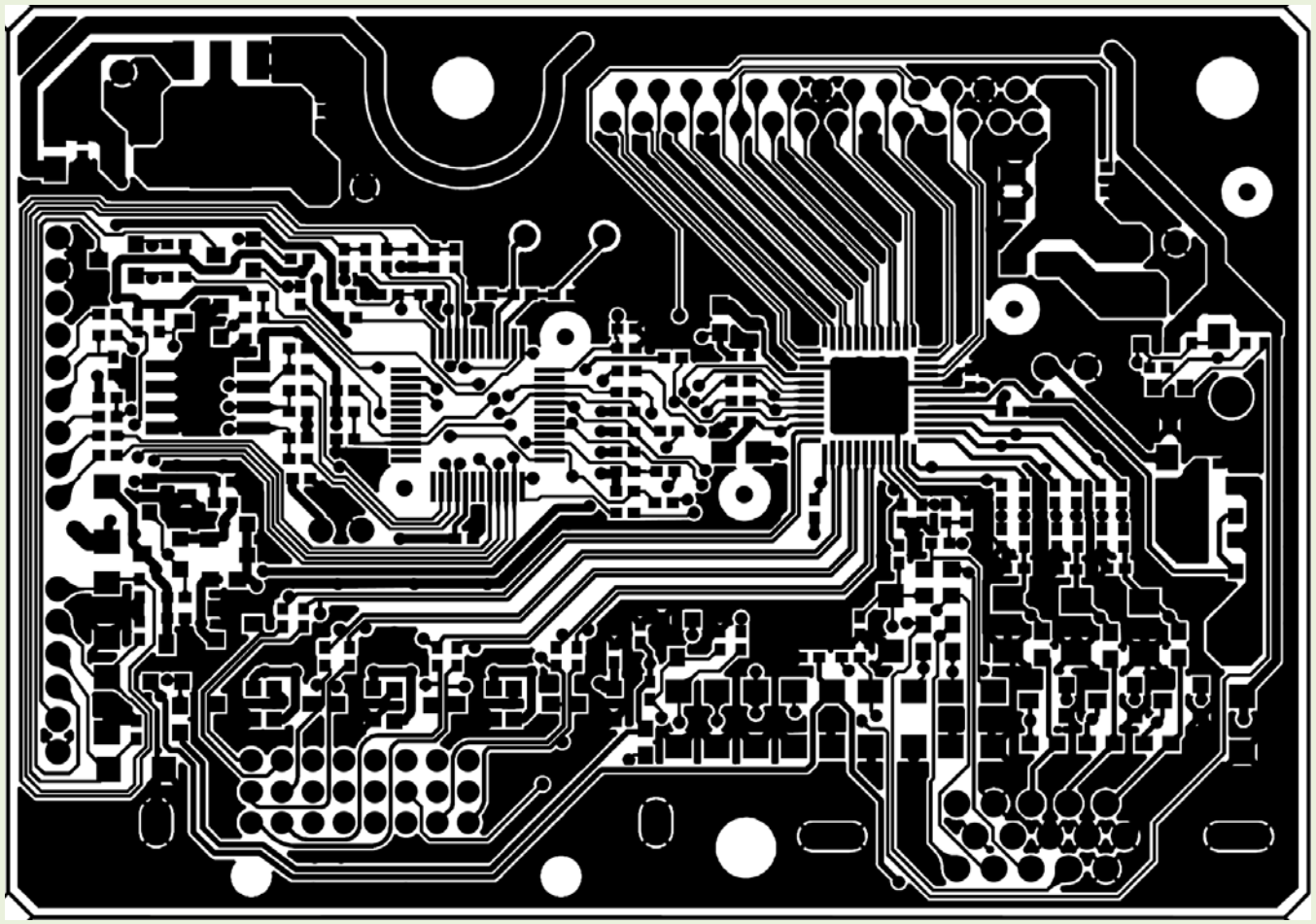

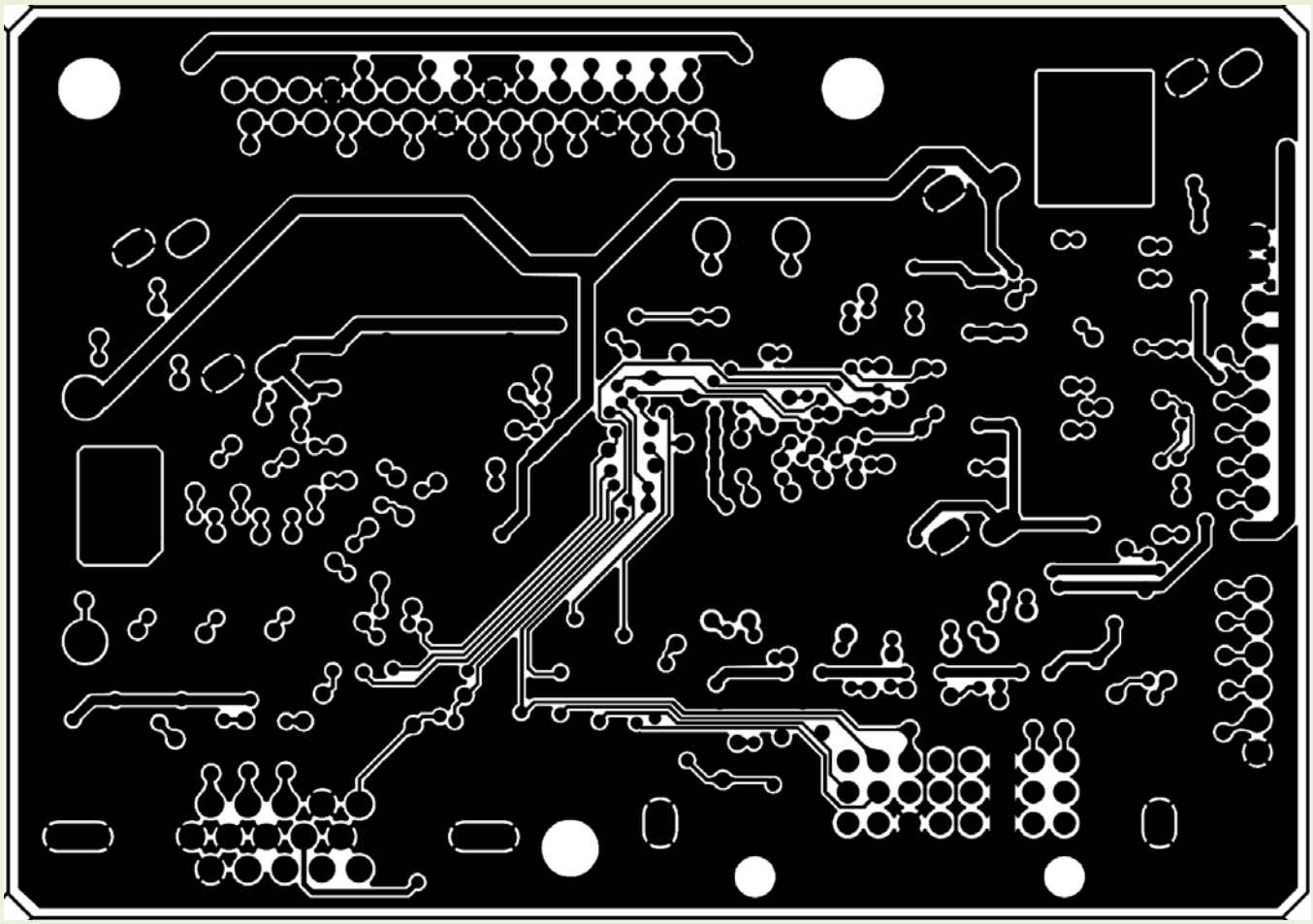

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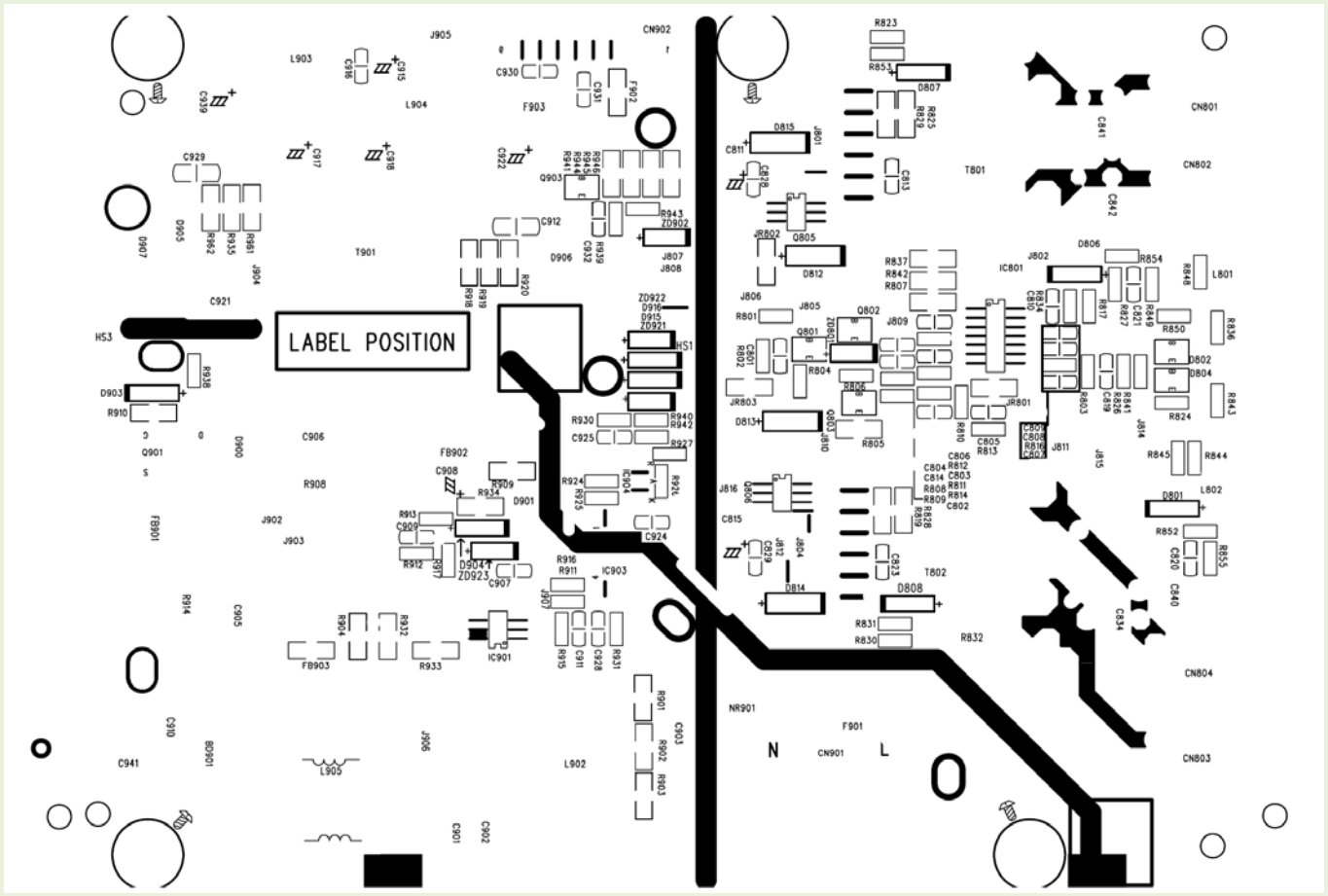
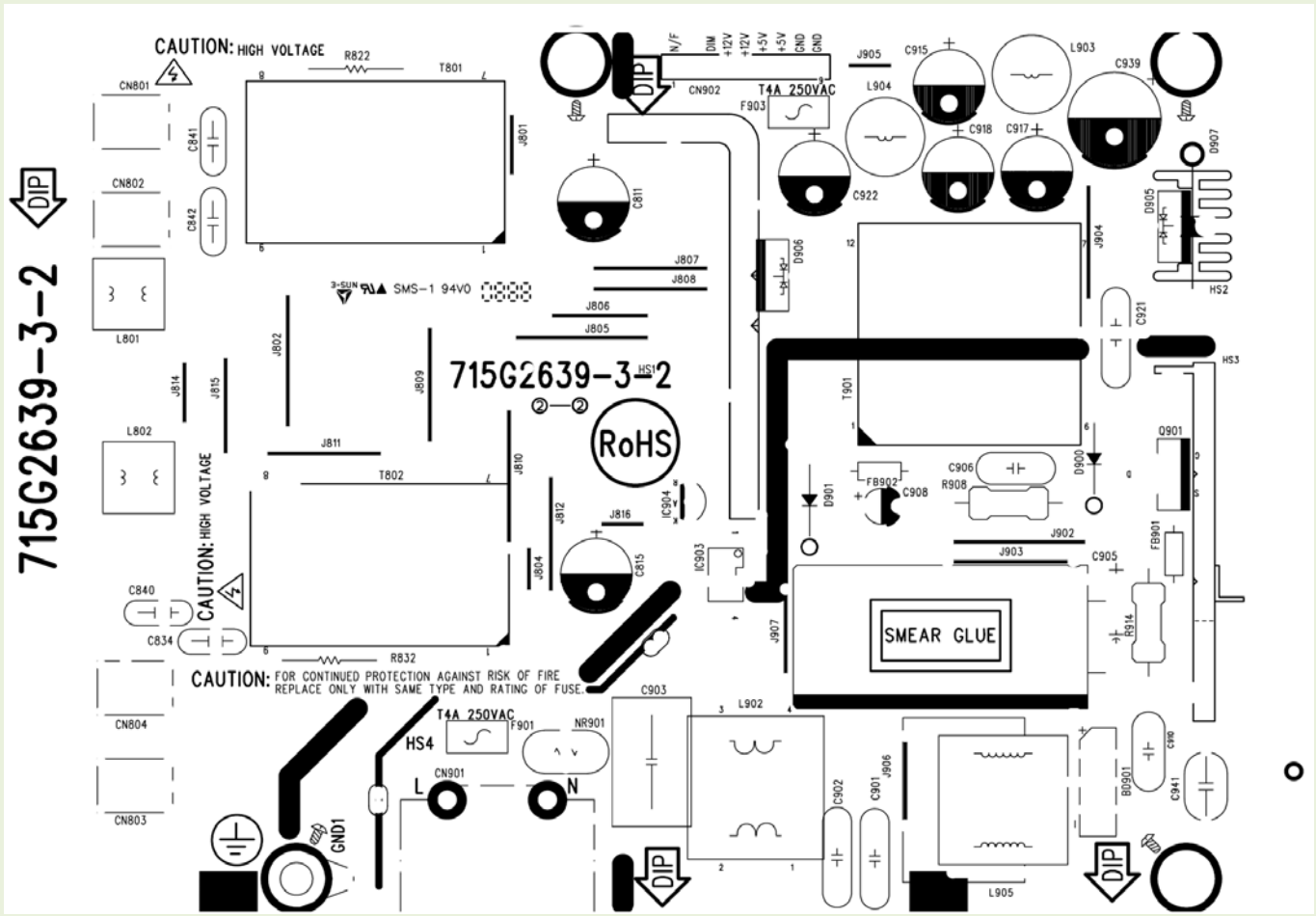
Power Board





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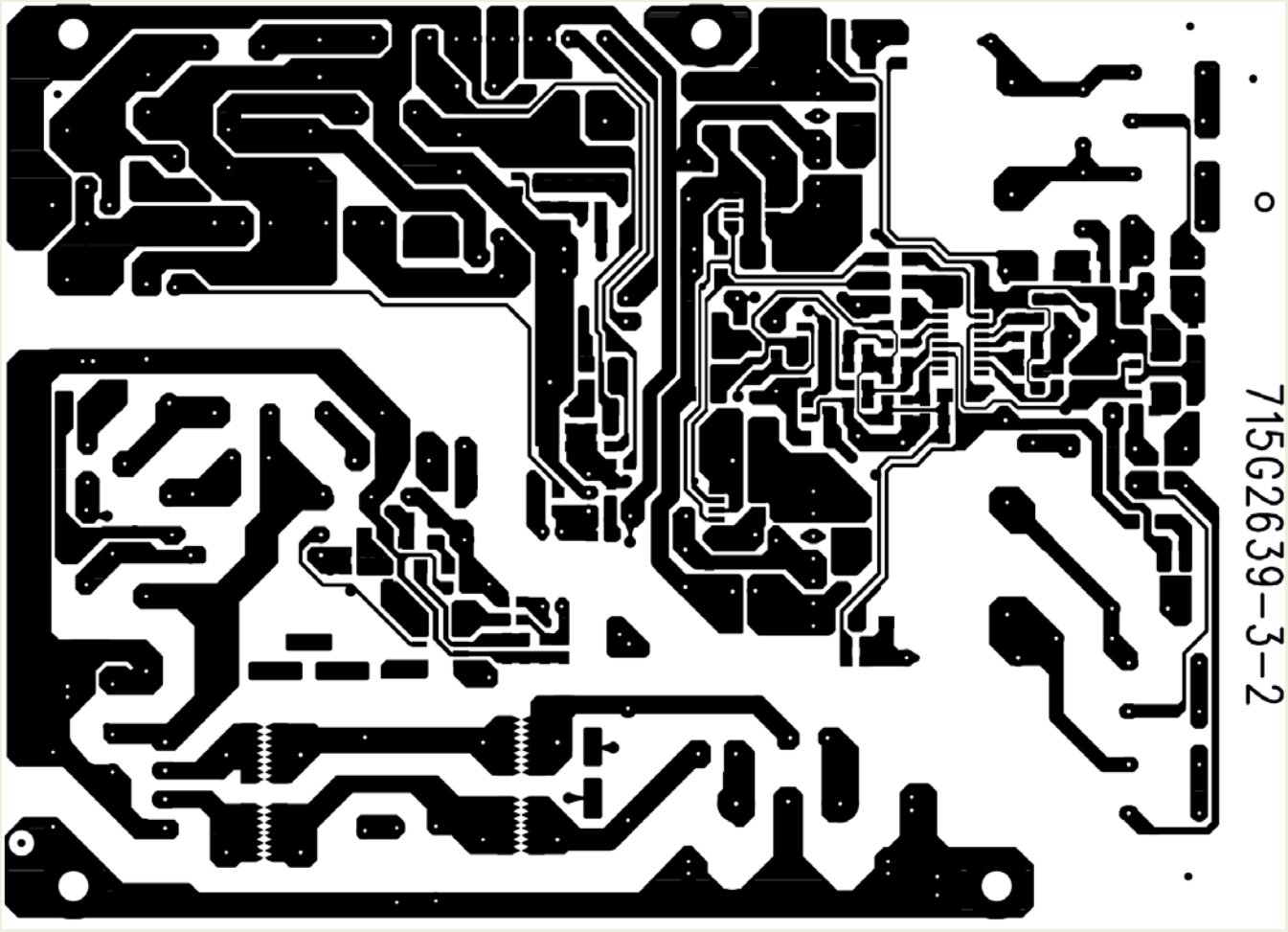

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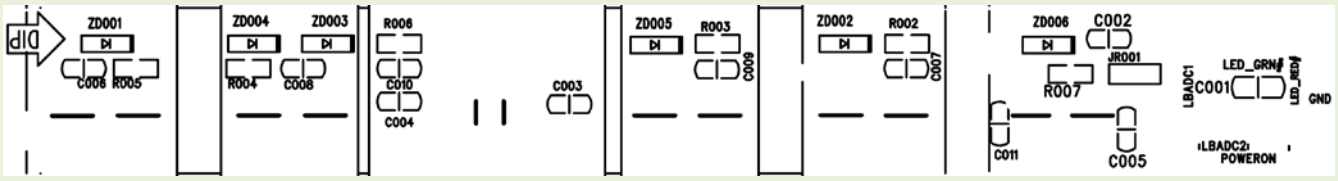
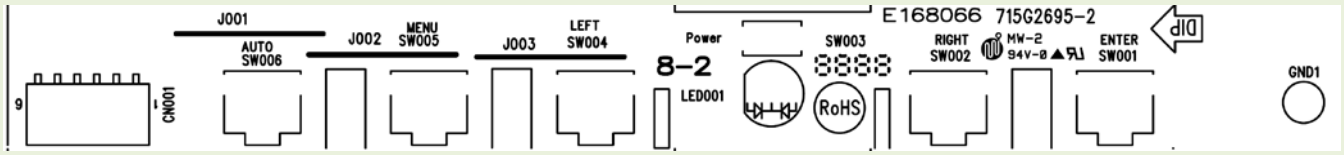
Key Board





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Appendix 1 – Screw List / Torque

(TC9SRJDBMWBFHN)

Part No.	Type	Description	Quantity	Torque
0M1G1730 6120	M3*6	MAIN BOARD & MAINFRAME	2	6 ± 1kgf.cm
0M1G1730 6120	M3*6	POWER BOARD & MAINFRAME	4	6 ± 1kgf.cm
0M1G 130 5120	M3*5	PANEL & MAINFRAME	4	3 ± 0.5kgf.cm
AM1G1740 10 47 CR3	M4*10	REARCOVER &HINGE & MAINFRAME	2	6 ± 1kgf.cm
0M1G 130 5 47 CR3	M3*5	REARCOVER & MAINFRAME	1	6 ± 1kgf.cm
0Q1G1840 10120	T4*10	HINGE & REARCOVER	2	6 ± 1kgf.cm
0M1G1740 10120	M4*10	HINGE&STAND BACK	2	6 ± 1kgf.cm

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